STANDING COMMITTEE ON

CROWN AND CENTRAL AGENCIES

NINTH REPORT

INQUIRY INTO SASKATCHEWAN'S ENERGY NEEDS

FINAL REPORT

APRIL 5, 2010

Legislative Assembly of
Saskatchewan

Committees Branch

7 - 2405 Legislative Drive
Regina, Saskatchewan
S4S 0B3
Tel: (306) 787-9930
Fax: (306) 798-9650
E-mail: committees@legassembly.sk.ca

April 5, 2010

To the Honourable Members
of the Legislative Assembly
of the Province of Saskatchewan

HONOURABLE MEMBERS:

Your Standing Committee on Crown and Central Agencies is pleased to present its Final Report to the Honourable Members of the Legislative Assembly.

Your Committee held public hearings in Regina, Saskatoon, La Ronge, Lloydminster, Prince Albert, Yorkton and Estevan. In total, your Committee held 18 days of public hearings and heard testimony from 63 witnesses as well as received 42 written submissions. Your Committee appreciates all those who have taken time out of their busy schedules to make presentations and to write letters expressing how they believe Saskatchewan should meet its energy needs in a manner that is safe, reliable, affordable and environmentally sustainable.

The final report summarizes witness testimony and written submissions, outlines themes from all the public hearings and makes recommendations. Based on the information presented, your Committee has made 20 recommendations.

It has been an honour and pleasure for your Committee to work together on behalf of the Legislature of Saskatchewan and the people of this province. Your Committee respectfully submits the Standing Committee on Crown and Central Agencies' Ninth Report, *Inquiry into Saskatchewan's Energy Needs – Final Report.*

Tim McMillan, MLA
Chair
Lloydminster

TABLE OF CONTENTS

Executive Summary i

Process 1

Emerging Themes 3
- 1) Cost 3
- 2) Demand-Side Management, Conservation & Efficiency 4
- 3) Renewable Energy Sources 7
  - a) Biomass 7
  - b) Geothermal 9
  - c) Hydroelectricity 9
  - d) Solar 10
  - e) Wind 11
  - f) Net Metering, Feed-In Tariffs & Ontario's Green Energy Act 12
- 4) Baseload Energy Supplies 14
  - a) Coal 14
  - b) Cogeneration and Polygeneration 15
  - c) Nuclear 16
  - d) Natural Gas 17
- 5) Transmission, Distribution & Interties 18
- 6) Decentralize & Downsize 19
- 7) Saskatchewan Educational Institutions 20
- 8) First Nations and Métis Involvement 20

Summary of Presentations 22

Summary of Written Submissions 34

Recommendations 35

Appendices
- Appendix A – Invited Stakeholder List 38
- Appendix B – List of Tabled Documents 40

Tables
- Table 1 – Witnesses by Category 47
- Table 2 – Written Submissions by Category 50

Works Cited 51

Minority Opinion 53

COMPOSITION OF COMMITTEE

Mr. Tim McMillan, Chair
Lloydminster

Mr. Buckley Belanger, Deputy Chair
Athabasca

Mr. Denis Allchurch
Rosthern-Shellbrook

Mr. Fred Bradshaw
Carrot River Valley

Mr. Dan D'Autremont
Cannington

Mr. Randy Weekes
Biggar

Mr. Trent Wotherspoon
Regina Rosemont

OTHER PARTICIPATING MEMBERS

Ms. Doreen Eagles
Estevan

Mr. Glen Hart
Last Mountain-Touchwood

Mr. Warren McCall
Regina Elphinstone-Centre

Ms. Sandra Morin
Regina Walsh Acres

Mr. John Nilson
Regina Lakeview

Mr. Greg Ottenbreit
Yorkton

Mr. Len Taylor
The Battlefords

Ms. Nadine Wilson
Saskatchewan Rivers

EXECUTIVE SUMMARY

On April 29, 2009, the Standing Committee on Crown and Central Agencies received an Order of Reference from the Legislature. All the members of your Committee met *in camera* on September 9, 2009. Your Committee scheduled nine public hearing dates in October in Regina, Saskatoon and La Ronge. They also requested that all witnesses and written submissions respond to the following question:

> *"How should the Government best meet the growing energy needs of the province, in a manner that is safe, reliable, and environmentally-sustainable, while meeting any current and expected Federal Environmental Standards and Regulations, and maintaining a focus on affordability for Saskatchewan residents today and into the future?"*

Your Committee met again on September 29, 2009 to discuss additional hearing dates and an interim report. Your Committee agreed to conduct nine public hearings throughout January 2010 in Lloydminster, Prince Albert, Saskatoon, Yorkton, Estevan and Regina. Your Committee decided that an interim report would be tabled outlining the information received from SaskPower, stakeholders and the public from the fall public hearings.

On December 1, 2009, your chair of the Standing Committee on Crown and Central Agencies, Mr. Tim McMillan, reported back to the Legislature and moved that the *Eighth Report - Inquiry into Saskatchewan's Energy Needs – Interim Report* be concurred in.

In October, your Committee received 24 written submissions and 32 presentations. During the January hearings, your Committee heard from an additional 31 witnesses and received 18 more written submissions. In total, your Committee held 18 days of public hearings, traveled over 3600 kilometers to seven communities and heard testimony from 63 witnesses and received 42 written submissions.

There were several themes that emerged from the presentations and written submissions during the public hearings. A prominent issue that became apparent was the cost and who was to bear the cost of upgrading, expanding and modernizing the electrical generation system. Many expressed a desire for conservation and efficiency measures because they are a means to mitigate growing energy needs and costs. A number of presenters and written submissions also detailed the desire for a decentralized mix of renewable energy sources to meet the expected growth and many wanted the ability to sell excess energy back to the grid for a profit. Some industry representatives noted the need for transitional sources of energy such as natural gas because it burns cleaner than other fossil fuels and is a flexible source of energy. Businesses, communities and representative organizations wanted to see an investment in baseload energy to ensure there is a reliable and stable energy supply for industry. Further, a number of presenters emphasized the need for reliable generation in the North which could be done in partnership with First Nation and Métis groups.

The Standing Committee on Crowns and Central Agencies makes the following recommendations:

Infrastructure

Recommendation 1

Saskatchewan has current and future capital infrastructure needs due to aging facilities. Your Committee recommends that SaskPower and its partners must continue to invest in generation, transmission and distribution infrastructure to ensure that there is a consistent and reliable power supply now and into the future.

Cost

Recommendation 2
Your Committee recommends that SaskPower provide all customers in Saskatchewan with a consistent and reliable supply of power at the lowest possible cost.

Baseload Energy

Recommendation 3
Your Committee recommends that SaskPower continue to ensure that a consistent and reliable amount of baseload energy is made available to provide the province with its power needs now and into the future.

Recommendation 4
Your Committee recommends that there is a need to continue to evaluate carbon capture and sequestration options, while maintaining Saskatchewan's world-leading position in this technology.

Interties

Recommendation 5
Your Committee recommends that the Government of Saskatchewan should continue to work with neighbouring provinces and states to establish and strengthen interties and connections, similar to the recent agreement between Saskatchewan and Manitoba.

Recommendation 6
Your Committee recommends that the Government of Saskatchewan work in conjunction with the Federal Government to develop a national grid.

Demand Side Management, Conservation & Efficiency

Recommendation 7
SaskPower has indicated a potential savings of 100MW due to demand side management and conservation initiatives. Various presenters and experts have indicated this is a low target. Your Committee recommends that SaskPower increase their demand side management and conservation targets to align with other jurisdictions that have had documented successes with similar initiatives.

Recommendation 8
Your Committee recommends that SaskPower evaluate its net metering program and determine its potential for expansion.

Recommendation 9
Your Committee recommends that SaskPower examine net metering options for customers who have more than one meter on an account.

Recommendation 10
Your Committee recommends that SaskPower explore better avenues to promote the net metering program and the small power producers program.

Renewable Energy Sources

Recommendation 11
Your Committee recommends that SaskPower continue to add renewable energy sources to the generation mix. Adding these sources must be balanced with the risks associated with each.

Recommendation 12
Your Committee recognizes that SaskPower has done significant work studying wind options and recently announced two programs, The Green Options Plan and the Green Options Partners Program to add 200MW of wind power to the provincial grid. Your Committee recommends that additional wind capacity be continually evaluated.

Recommendation 13
Your Committee recommends that SaskPower pursue hydroelectric power, in particular run-of-the-river hydro projects and partnerships.

Recommendation 14
Your Committee recommends that SaskPower continue to monitor the affordability of solar power.

Recommendation 15
Your Committee recognizes that biomass projects are becoming an increasing possibility as a power source. Your Committee recommends SaskPower continue to monitor all biomass generation options.

Recommendation 16
Communities, individuals and industry have expressed interest in biomass. Your Committee recommends that SaskPower work with these various partners to evaluate potential biomass generation options.

Distributed Power

Recommendation 17
Your Committee recommends that SaskPower pursue possible cogeneration partnerships with communities and industry.

Saskatchewan Education Institutions

Recommendation 18
Your Committee recommends that the Government of Saskatchewan, in partnership with the University of Saskatchewan, University of Regina, Petroleum Technology Research Centre and The International Test Centre for CO_2 Capture and other potential partners continue to develop our own centre of excellence for the study of energy options. This would include the work that is being done on carbon capture and sequestration as well as all renewable energy sources, next generation advancements and smart grid technology.

First Nation and Métis Involvement

Recommendation 19

Your Committee recommends that the Government of Saskatchewan ensure First Nation and Métis peoples continue to be involved in evaluating and participating in future energy options.

Recommendation 20

Your Committee recommends that the Government of Saskatchewan complies with the Supreme Court of Canada rulings on the duty to consult and accommodate regarding First Nations and Métis peoples.

PROCESS

On April 29, 2009 your Standing Committee on Crown and Central Agencies received an Order of Reference from the Legislature. Your Committee was given the following Order:

> *That the Standing Committee on Crown and Central Agencies, in accordance with rule 147(3) of The Rules and Procedures of the Legislative Assembly of Saskatchewan, shall conduct an inquiry to determine how the province can best meet the growing demand for electricity in a manner that is safe, reliable, environmentally sustainable, and affordable for Saskatchewan residents; and that the said committee shall conduct public hearings to receive representations from interested individuals and groups; and further, that the said committee may, notwithstanding rule 147(4), report its recommendations to the Assembly at a date determined by the committee.*

Your Committee scheduled nine public hearing dates for October 2009 in Regina, Saskatoon and La Ronge. It was agreed that all witnesses and written submissions respond to the following question:

> *How should the Government best meet the growing energy needs of the province, in a manner that is safe, reliable, and environmentally-sustainable, while meeting any current and expected Federal Environmental Standards and Regulations, and maintaining a focus on affordability for Saskatchewan residents today and into the future?*

Your Committee met again on September 29, 2009 to discuss additional hearing dates and an interim report. Your Committee agreed to conduct nine public hearings throughout January 2010 in Lloydminster, Prince Albert, Saskatoon, Yorkton, Estevan and Regina. Your Committee decided that an interim report would be tabled outlining the information received from SaskPower, stakeholders and the public from the fall public hearings.

Across the province, daily and weekly newspapers, radio and television stations received meeting notices advising the public of the upcoming hearings. 135 stakeholder letters were also sent out to individuals, organizations and industry. For a complete list of stakeholders, please see Appendix C. Additionally, newspaper advertising commenced during the week of September 22 for the first round of public hearings and again in the middle of December and early January for the second round of public hearings. All parties interested in presenting before your Committee were asked to send requests to the Committee Researcher. Your Committee also accepted written submissions if received on or before the stated deadlines.

On December 1, 2009, your chair of the Standing Committee on Crown and Central Agencies, Mr. Tim McMillan, reported back to the Legislature and moved that the *Eighth Report - Inquiry into Saskatchewan's Energy Needs – Interim Report* be concurred in.

In October, your Committee received 24 written submissions and 32 presentations. During the January hearings, your Committee heard from an additional 31 witnesses and received 18 more written submissions.

In total, your Committee held 18 days of public hearings, traveled over 3600 kilometers to seven communities and heard testimony from 63 witnesses and received 42 written submissions.

There were several themes emerged from the presentations and written submissions during the public hearings. A prominent issue that became apparent was the cost and who was to bear the cost of upgrading, expanding and modernizing the electrical generation system. Many expressed a desire for conservation and efficiency measures because they are a means to mitigate growing energy needs and costs. A number of presenters and written submissions also detailed the desire for a decentralized mix of renewable energy sources to meet the expected growth and many wanted the ability to sell excess energy back to the grid for a profit. Businesses, communities and representative organizations wanted to see an investment in baseload energy to ensure there is a reliable and stable energy supply for industry.

New themes emerged in the second round of public hearings. Time-of-day pricing -- a pricing scale that increases during peak hours and seasons -- was believed to aid in conservation and reward those using electricity in off-peak periods. Increasing emphasis was placed on alternative and transitional energy sources such as natural gas and converting landfill waste to energy.
Further, a number of presenters emphasized the need for reliable generation in the North which could be done in partnership with First Nation and Métis groups.

EMERGING THEMES

1) Cost

SaskPower

On the first day of testimony, October 6, 2009, SaskPower identified the need for substantial upgrades and infrastructure to meet Saskatchewan's growing energy needs. Given the extensive capital investment required to build, refurbish and replace generation, transmission and distribution facilities, SaskPower projected a $15 billion cost to do this. Past President Pat Youzwa stated publicly:

> *Regardless of which supply option we choose, we know that costs associated with new or rebuilt generation, transmission, and distribution facilities will put cost pressures on SaskPower, and we can expect to see our expenses increase...We have projected for scoping purposes that the cost to fill the needs that we're forecasting at this point in time and to meet the regulatory requirements that we anticipate, that the cost overall is in the order of $15 billion" (Saskatchewan 2009a, 250).*

Given this estimate, renewing the fleet, moving away from a coal-based electricity generation system and towards more renewable energy sources will increase costs. As Vice President of Planning, Environment and Regulatory Affairs, Mr. Gary Wilkinson simply stated, "as you retire the 3-, 4-, and the 5-cent stuff and you bring in the 10-cent and the 15-cent stuff, you are going to see costs rise" (Saskatchewan 2009a, 247).

Witness Responses

Given the heavy investment required to upgrade the current electricity system, there was an understanding and general acceptance that regardless of which energy sources is invested in, rates will increase. Mr. Tim Weis, Director of Renewable Energy and Energy Efficiency Policy at the Pembina Institute, summarized increasing rates:

> *Power prices are going up regardless. And I think that was made clear by SaskPower, that even without renewable power, we're looking at price increases across the board across Canada because a lot of our aging infrastructure is going to need to be rebuilt in one shape or another. So power prices are going up, and I think that's an important starting point (Saskatchewan 2009c, 310).*

Mr. Mark Cazakoff, a member of Vision of Earth, considers the increased costs justifiable given the need for infrastructure and the historically low prices, "I think that the rates that SaskPower is asking for over the next short while are completely not only justified but would be quite acceptable" (Saskatchewan 2010p, 708).

Some witnesses supported rate increases that were widely distributed between customers however, there were those who believed that the heaviest users –industry-- should pay for a larger share. Ms. Cathy Holtslander said, "It seems to me that the cost should be spread out over the whole system, and the savings should be spread out over the whole system too" (Saskatchewan 2009f, 392). Dr. Dan Beveridge Sr. of KAIROS Regina chapter questioned whether the costs should be borne by the heaviest users. He stated, "It does raise the question of whether the cost of the whole upgrade should

be spread evenly over the total base of SaskPower utility users, or whether those particular industries might have to maybe bear a larger share" (Saskatchewan 2009i, 487).

In contrast, this sentiment was not shared by the members of the Saskatchewan Mining Association, who held that increasing their members' share might dissuade investment. Mr. Fortney, Chair Saskatchewan Mining Association Potash Section and General Manager of PotashCorp Rocanville Mine said, "if you've got a new project that's invested in all new infrastructure in terms of a plant up north, and then they see a significant penalty in terms of having to pay all of the infrastructure for a new power grid, that would make the project less viable" (Saskatchewan 2009h, 440).

The Executive Director of the Greater Saskatoon Chamber of Commerce, Mr. Kent Smith-Windsor, did not openly disapprove of rate increases but cautioned against high prices. He wants to ensure that power remains competitively priced between jurisdictions to ensure continued business investment. He noted, "It is fair to say that a significant number of businesses that might choose to be located in Saskatchewan would be substantially sensitive to a pricing structure in Saskatchewan that might ultimately become uncompetitive versus other locations that they might choose to have for that investment" (Saskatchewan 2010m, 667).

Mr. Steve McLellan, President of the Saskatchewan Chamber of Commerce aptly summarized:

> *Regardless of how we choose to finance and implement our energy infrastructure growth, the tax burden on individuals and businesses should be minimized whenever possible...We're going to pay more in the future for power. It's as simple as that. But we need to make sure that we think about it and that we minimize it as much as possible for the consumer as well as for the businesspeople (Saskatchewan 2009i, 491).*

SaskPower Response

Costs are going to rise regardless of the options chosen. SaskPower acknowledged that there may be customers willing to pay extra for green energy but also noted that during the rate review process, there are customers who want to pay as little as possible. Ms. Judy May observed, "There are certain customers who are interested in paying a bit of a premium for green or renewable electricity. But again there's also, through the process we undergo with rate applications, those customers who are really looking for the least rates. They're looking for that reliable, sustainable electricity at lowest possible cost" (Saskatchewan 2010r, 831). Given that, SaskPower officials recognize their role in minimizing the cost to consumers. Former President Pat Youzwa said, "We know that whatever generation and transmission options are chosen to meet the province's future electrical needs, there will be cost impacts on everyone in Saskatchewan. It is our job to minimize those as best we can" (Saskatchewan 2009i, 528).

2) Demand-Side Management, Conservation & Efficiency

SaskPower

Demand-side management, conservation and efficiency were identified as key components of SaskPower's short, medium and long-term energy mix during the first and second rounds of public hearings. Not only were these identified as important tools for reducing demand but were also viewed as mechanisms to alleviate rate increases. In the first round of hearings, SaskPower's Eneraction Program was identified as the program to address industrial, commercial and residential load management.

Witness Response

Demand-side management, conservation and efficiency were areas in which there was support by witnesses and in the written submissions. Representatives from industry discussed their active role in conservation as a means to reduce costs. There was encouragement for SaskPower to expand conservation targets and some wanted further emphasis on conservation programs and incentives.

Many of the social justice and environmental groups indicated that conservation and efficiency should be first and foremost in reducing demand during the transitional period and into the future. In his presentation, Dr. Jim Harding stated:

> *While you're using the fossil fuels, your first thing is an efficient, lower impact policy. That's how you lower your greenhouses. Until you shift your technologies to renewables, you're responsible to lower your impact and increase your efficiencies, which is why we say efficiency and conservation first always (Saskatchewan 2009b, 282).*

Industry has stated that they have taken a lead role in demand-side management, conservation and efficiency. The Saskatchewan Mining Association declared that their members are heavily involved in conservation and efficiency measures to help reduce costs. Mr. Steve Fortney, Chair Saskatchewan Mining Association Potash Section and General Manager of Potash Corporation Rocanville Mine stated, "The SMA supports initiatives for energy efficiency and conservation. Member companies actively adopt these practices as energy costs are a significant part of our business, and improved efficiency means reduced costs" (Saskatchewan 2009h, 439). Mr. Jim Corman of Areva Resources Canada emphasized:

> *We are also investing millions of dollars to make our operations more energy efficient and lower our demand. Both Cameco and Areva have conducted energy assessments at all of their operational sites, and we have and will be implementing a number of measures both large and small to reduce consumption. Everything from the construction of LEED [leadership in energy and environmental design] compliant residences, steam recovery projects, improved lighting controls, and major heat recovery initiatives have been completed or are in the works (Saskatchewan 2010m, 632).*

Some witnesses believed that SaskPower's reduction targets were not aggressive enough. Communications, Energy and Paperworkers Union Administrative Vice President, Ms. Wendy Sol stated, "CEP encourages SaskPower to expand these efforts and set much more ambitious goals for itself than the current very modest goal of conserving 100 megawatts…" (Saskatchewan 2010q, 750).

Some witnesses believed there is a disincentive to conserve energy because of the low cost of electricity. Mr. Michel Cyrenne of the Estevan and District Board of Tourism, Trade and Commerce observed that, "Saskatchewan has historically maintained and promoted low utility rates. This can in effect be a cause of inefficiency. Low utility rates, while they do provide some benefit to consumers, are not conducive to energy conservation" (Saskatchewan 2010o, 696).

Several presenters suggested that a new pricing mechanism based on time-of-day usage would encourage conservation and penalize waste. Mr. Jim Elliot of the Council of Canadians Regina Chapter said, "We should be implementing a demand-side management system such that in fact you can control the use of power and when it is used. And that's the idea of around peak hours so that in fact you are charging people more in peak hours and less in other times of the day" (Saskatchewan 2010p, 736).

Rev. Margaret McKechney knew of the existence of conservation programs but wanted to see increased emphasis on them, "We are aware that there have been a number of programs for the individual level of conservation. And one of the observations we have is that a lot of those are not well known, that people often find the accessing and the paperwork a little daunting. So we would encourage that those programs that are already in existence that there might be some higher profile given to those programs" (Saskatchewan 2010m, 652).

Another mechanism witnesses discussed to improve energy efficiencies was through the adoption of more stringent building codes. Leadership in Energy and Environmental Design (LEED) was cited by several witnesses as a standard for which to strive in government buildings and housing.

SaskPower Response

On the first day of presentations, Ms. Judy May identified programs in place or to be introduced to aid in conservation and efficiency measures. Eneraction is SaskPower's "portfolio of energy efficiency, conservation and load management programs, aimed at really, programs for all customer bases" (Saskatchewan 2009a, 249). Your Committee sought clarity from SaskPower and asked if load growth could be met through demand-side management, efficiency and conservation methods. Addressing your Committee's question, Ms. Judy May answered:

> *I'm not sure of any jurisdiction that has set 100 per cent of growth to be covered off by demand-side management. There are certainly other jurisdictions that are looking at 20 per cent of load growth to be covered off by demand-side management or 50 per cent of load growth to be covered off by a demand-side management. But to have that entirely covered off by demand-side management at this point in time, certainly ambitious. But whether it's quite realistic at this point of time, I would say, questionable (Saskatchewan 2010r, 831).*

Ms. Judy May defended SaskPower's reduction targets:

> *Some might think that perhaps these numbers are rather modest, but I want to touch on why I think that they're quite reasonable. First off, when we look at 300 megawatts of energy savings, that's about 10 per cent of our load growth as we project into the future...other jurisdictions who've been in the demand-side management programming area for almost two decades are currently experiencing in terms of their demand-side management program savings (Saskatchewan 2009a, 248).*

In addition to conservation and other demand-side management programs, members of your Committee asked SaskPower about time-of-day pricing as a tool to reduce consumption. SaskPower is currently analyzing advanced metering technology, which would be required to implement such a program. Ms. Judy May informed your Committee of the current work being undertaken:

> *... Advanced metering infrastructure is the foundation for a smart grid. And advanced metering infrastructure, we have a project under way. It really got started in a significant way about mid-last year. And by mid-2010, it's our intention to have a business case for a decision making, to go through our decision-making process as to the case for, the business case for advanced metering infrastructure (Saskatchewan 2010r, 822).*

Mr. Gary Wilkinson, Vice President Planning, Environment and Regulatory Affairs explicitly requested direction with regard to demand-side management from your Committee. He stated, "We'd seek your committee's support on things called demand-side management. Make the issue go away in

the first place so I don't even have to even consider a generator to meet it. That would be wonderful" (Saskatchewan 2010r, 829).

3) Renewable Energy Sources

In the first round of public hearings, SaskPower spoke at length about a multitude of renewable energy options, including biomass, geothermal, hydroelectricity, solar and wind. SaskPower, although enthusiastic about the future of renewable energy sources, cautioned how much renewable energy goes into the electricity system because of the unique characteristics of each generation type.

Many witnesses and written submissions outlined the importance of renewable energy sources in the energy mix. Presenters discussed a diversified and decentralized electricity system that includes biomass, geothermal, hydroelectricity, solar and wind. Witnesses also expressed an interest in producing their own energy and having the opportunity to sell it back to the grid for a profit like Ontario's feed-in tariff.

a) Biomass

SaskPower Response

Biomass is looked upon positively by SaskPower. The officials from SaskPower, "believe that it's eligible for favorable regulatory treatment – in other words, even though I might burn it to make power, it was better than the alternative. And so it may get a free ride or, well, something of a free ride under CO_2 regulations" (Saskatchewan 2009a, 243). Currently, SaskPower is having one of their coal plants evaluated as a potential site to use wood as a fuel source and are interested in potential Independent Power Provider agreements.

Witness Response

The benefits of biomass were promoted by several presenters. Biomass was often discussed as part of the energy mix and the North was identified as a potential location for biomass development. Dr. Malcolm Wilson said, "biomass certainly has a huge potential in the province…The fuel sources can be everything from agricultural surplus materials, forestry wastes, and indeed municipal solid waste which has the benefit then of decreasing the amount of material going to landfills and the downside of landfills such as methane production and the like" (Saskatchewan 2009i, 476).

The Northeast Enterprise Region came before your Committee to highlight biomass and biomass-coal opportunities that exist in their region. The region is rich in forestry, has abundant agriculture waste and recently, large coal deposits have been located. Given the long forestry and agricultural histories, the area has extensive infrastructure, such as roads, power corridors and access to rail lines, in place to support the development of energy projects. They also noted two biomass pellet projects:

> *We have a major biomass project in Hudson Bay beginning construction in spring that will sell wood biomass pellets to Europe to be used in coal-fired power generation plants there to reduce their percentage of CO2. A second biomass project for wood pellets is envisioned for the Carrot River saw mill, as the new owners of the Carrot River saw mill have a proven track record of profitably selling biomass (Saskatchewan 2010n, 674).*

Mr. Ben Voss, CEO of Meadow Lake Tribal Council Resource Development Inc. discussed their two power projects in the first and second round of public hearings. In October, they introduced

their projects and Mr. Ben Voss believed that MLTC is, "a logical partner and developer of sustainable biomass energy. And it makes sense because we have a saw mill, we own the only operating forestry license, and we operate it to the highest degree of environmental certification and sustainability available internationally" (Saskatchewan 2009g, 415). In January, Mr. Ben Voss stated MLTC Resource Development Inc. has, "proposed a power price of 7.4 cents a kilowatt hour" (Saskatchewan 2010l, 640) for their combined natural gas and biomass system.

Mr. Dave Kutcher from CCG Trade & Development Corporation also addressed your Committee in the first and second round of public hearings. In the first round of public hearings, he discussed China National Machinery Import and Export Company's (CMEC) interest in developing biomass partnerships with First Nations and northern communities. In January, he came before the Committee to discuss costs of biomass power and through a series of models, determined that the price that he could produce biomass energy ranged from 11.2 to 16.8 cents/kw depending on the size of the plant and other factors such as location and availability of wood waste. He was critical of SaskPower's Green Options Partners Program that offers 9.4 cents/kw and cited Ontario's feed-in tariff rates as more feasible.

Many witnesses discussed wood and agricultural residues as potential biomass sources but there considerable discussion in Yorkton regarding electricity production from landfill waste. Mr. Carey Fyke of Precision Rewind outlined several mechanisms to convert waste heat to energy. He concluded that, "the best choice of technologies is a continuous burning incinerator. The reasons for that are the costs of putting it in place are more economical. The energy created would be in its simplest form, heat. Heat would be used to run steam turbines to produce electricity" (Saskatchewan 2010n, 682).

Although the City of Yorkton and Agmar International Marketing Inc. supported converting landfill waste to energy, they are analyzing pyrolysis technology rather than incineration. They want to use this technology in a demonstration project that would supply energy to the sewage treatment plant:

> *The city wants to use new technology, specifically pyrolysis, to convert waste to power in an environmentally sustainable manner. Waste would include municipal solid waste; sludge; commercial, industrial, forestry, and agricultural wastes. This technology also has the capability to safely process some hazardous wastes as well. Using new technology would limit the need for a landfill and extend the life of the city's current landfill" (Saskatchewan 2010n, 685-686).*

Mr. David Putz would like SaskPower to have a clearer policy for power projects outlining a rate schedule, requirements to connect to the power grid and supply to the system. He cited Ontario's Green Energy Act for possible consideration.

SaskPower Response

Mr. Gary Wilkinson reiterated SaskPower's interest in biomass, "we'll be looking at biomass in a number of different ways, one of which is kind of using the biomass or waste wood in the North directly …we're also looking at ways and means, could we use biomass and actually find a way to run it into an existing coal-fired boiler and reduce emissions that way" (Saskatchewan 2010r, 826).

b) Geothermal

SaskPower

SaskPower did not discuss geothermal potential in Saskatchewan extensively. The officials mentioned geothermal as it relates to a low interest rate loan program for residential customers who may be interested in generating their own heat or environmentally friendly electricity. Also available is a Commercial Geothermal Rebate Program for business and farm customers. Those that qualify for this program will receive a 15 per cent rebate up to $100,000 (SaskPower 2009b).

Witness Response

Brian Brunskill, a geologist studying deep geothermal potential in Saskatchewan, in particular, the Deadwood Aquifer said, "we're looking at a fairly small area of southeast Saskatchewan where the rocks are deep enough – therefore hot enough – where geothermal energy could actually support the generation of electricity using one of the mechanical systems" (Saskatchewan 2009b, 291). Noting the geothermal potential in his community, Mr. Michel Cyrenne stated that the Estevan & District Board of Tourism, Trade and Commerce have had very preliminary discussions with "private companies that are interested in developing geothermal opportunities in the area" (Saskatchewan 2010o, 701).

SaskPower Response

SaskPower did not provide a detailed discussion of geothermal electricity production but did reiterate the loan program available for residential customers in their October 19, 2009 presentation. No further questions were posed by your Committee members in January 2010.

c) Hydroelectricity

SaskPower

Currently, SaskPower maintains seven hydroelectric stations. They are, the Athabasca Hydroelectric System which includes the Wellington, Waterloo and Charlot River stations, the Island Falls Station, E.B. Campbell Station, Nipawin Station and the Coteau Creek Station. The stations range in age from 23 to 80 years of age. The total capacity of hydroelectricity in Saskatchewan is 854MW (SaskPower 2009a).

Like the Wind Power Integration Unit, SaskPower has established a Hydroelectric Development Unit to begin looking intensively at hydroelectric options in Saskatchewan because of its flexibility and storage capacity. As Mr. Gary Wilkinson stated, "Hydro is really, really flexible. I can start it; I can stop it. It can be loaded up quickly. It can be very helpful with that balancing issue that we talked about…" (Saskatchewan 2009a, 244). SaskPower is looking to First Nations for hydroelectric partnerships in the medium range plan.

Witness Response

Hydro was often cited as a green energy solution and is beginning to be seen in a more positive light if it is a small scale, run-of-the-river instillation or modifications to existing structures. The officials from Cameco and Areva consider, "that hydro is the right choice for the additional capacity needed in the North. Hydro, like nuclear, is a non-greenhouse gas emitting contributor to power, so that's where our focus is. It's a power source that can be brought on in a relatively reasonable period of time as well" (Saskatchewan 2010l, 635).

SaskPower Response
In their presentation before your Committee on January 29, 2010, Mr. Garner Mitchell, Acting President and CEO of SaskPower tabled two documents. One document included responses to questions posed to SaskPower on October 19, 2009 by your Committee. SaskPower estimated that the undeveloped hydropotential in Saskatchewan is roughly 3,240MW. According to the data, the Saskatchewan River has 2053MW of hydropotential followed by the Churchill River, 734 MW, and Fond-du-Lac River, 453 MW (CCA 270/26).

d) Solar

SaskPower
There are three forms of solar energy. The majority of witnesses discussed one type in particular; photovoltaic energy. Photovoltaic energy produces a direct current of energy. Solar was not extensively discussed by SaskPower, mainly because of the high cost. Nonetheless, SaskPower is studying the industry and there may be potential in the medium and long-term plans.

Witness Response
Your Committee heard from many witnesses discussing Saskatchewan's great solar potential but the current price of photovoltaic energy makes it too costly. Many emphasized that the industry is rapidly changing and the technologies and costs that are today will be different in the near future. Rev. Margaret McKechney stated, "there's good reason to believe in looking at other sources and the advancements around the world that those costs could decrease and that the feasibility of solar energy could become viable on alternatives in the not too distant future" (Saskatchewan 2010m, 653).

This sentiment was reiterated by Mr. Neil Collins, the Business Manager for the International Brotherhood of Electrical Workers Local 2067, he stated:

> *Solar's an opportunity for us that we should keep abreast of what is happening, especially in the southwest states. It is the utility that is leading this type of electrical generation in regards to solar panel and battery generation (Saskatchewan 2010r, 804).*

Your Committee received two written submissions from SHEC Energy Corporation which has invented and developed another form of solar energy; Concentrated Solar Power technology. The process of designing the pilot plant is nearly complete and they expect their technology can produce energy ranging in price from 4-9 cents per kilowatt hour (CCA 146/26). Mr. Tom Beck addressed the short-term increased costs of capital, "the capital cost of renewable energy is more expensive than the conventional fossil fuel power plants however, the energy they produce is from the sun and is free. Over the lifespan of a power plant, a solar plant is less expensive since the energy is free" (CCA 231/26).

SaskPower Response
SaskPower highlighted the success of the solar livestock watering program. Mr. Gary Wilkinson said:

> *We have attracted several thousand solar installations in this province through our livestock watering program — approximately 2,000 — by offering a $500 incentive for them to put a solar water feeding station rather than have us run a line out there. In that case that solar power is not hooked up to our grid. It's isolated in the middle of the ranchland somewhere. That has saved us — it hasn't*

cost us; it has saved us — millions because we did not have to run lines out there (Saskatchewan 2010r, 815).

The officials also noted the high cost of solar power that is being paid in Ontario, "They [Ontario] were willing to pay for this rooftop solar about $880 a megawatt hour…Right now the people in Saskatchewan are paying arguably about $60 a megawatt hour for their generations" (Saskatchewan 2010r, 814). SaskPower indicated that they are watching solar prices and are hoping that as demand increases, prices will come down.

e) Wind

SaskPower

Currently, Saskatchewan produces 4.7% of its energy supply through wind power (CCA 145/26). The Government of Saskatchewan and SaskPower introduced two new programs that will add another 200 megawatts of wind power to SaskPower's generation capacity bringing wind up to about 8.5% of the SaskPower's total generating capacity (Government of Saskatchewan 2009). These programs would nearly double the wind capacity in the province.

Witness Responses

Wind energy was consistently brought up as a renewable energy source that witnesses and those that made a written submission want to see pursued in this province. Witnesses took a positive view of wind energy because of the low environmental impact and the ability to distribute wind farms throughout the province. Rev. Margaret McKechney summarized the benefits of this technology, "Wind power we favour certainly because of the lack of any toxic waste, its reduced environmental impact, and the possibility that the wind power could be distributed round the province and therefore provide jobs to people in rural areas and also in remote areas (Saskatchewan 2010m, 653).

Your Committee also received testimony from George Gordon First Nation and ATCO Power regarding their proposed wind generation joint venture that could produce 80 to 160 megawatts. Mr. Trent Blind, CEO of George Gordon First Nation Holdings Inc. said, "First Nations want to be part of the solution as the sustainable nature of wind aligns with our beliefs about stewardship of the land and our relationship with mother nature" (Saskatchewan 2010p, 722).

Many witnesses felt strongly that wind power should be contributing more to our energy mix. Witnesses challenged wind penetration targets set by SaskPower and stated that 20 per cent should be the target and other jurisdictions in the world are on their way to meeting this. Canadian Wind Energy Association (CanWEA) challenged utilities and system operators' historic underestimation of wind penetration on the system. They are advocating a target of 20 per cent of Canada's on aggregate generation mix coming from wind power.

SaskPower Response

As stated, some witnesses want to see Saskatchewan set a wind penetration target of 20 per cent. Mr. Gary Wilkinson said, "Wind, SaskPower is getting pretty close to the highest percentage you're going to find in North America. You are, as a province, investing in renewables to a high degree in terms of per cent of the size of your system" (Saskatchewan 2010r, 829).

He also noted that the North American Electric Reliability Council is analyzing wind penetration levels and reliability. Given that individual US states and wind proponents are advocating higher wind levels, "the alarm bells went off with the reliability coordinator and said, we better do some work to assess what that kind of penetration level of intermittent or highly variable generation. What is that going to do to the reliability of the North American grid?" (Saskatchewan 2010r, 816)

f) Net Metering, Feed-In Tariffs & Ontario's Green Energy Act

SaskPower has several programs for small and medium sized power producers. For small scale customers interested in producing environmentally preferred power up to 100kw, they can enroll in the Net Metering Program or the Small Power Producers Program. The Green Options Partners Program is for medium-sized producers who "can generate and sell between 100 kilowatts (kW) and 10 megawatts (MW) of electricity to SaskPower" (SaskPower 2010b).

SaskPower

Net Metering is SaskPower's program that allows, "customers to generate their own energy and feed excess electricity that they're not able to use back to SaskPower's system. They get a credit for the excess energy…And this credit is banked at the value of SaskPower's residential rate" (Saskatchewan 2009a, 250). Currently there are "62 customers connected and another 47 who are waiting either for their generation to be installed or for a meter to be set" (Saskatchewan 2009i, 520).

Witness Responses

Witnesses consistently brought up net metering, feed-in tariffs and Ontario's *Green Energy Act*. They believed that net metering has not been adequately advertised and should be expanded to a feed-in tariff where producers could potentially make a profit by selling excess power back to the grid. Giving individuals, communities and businesses the opportunity to invest into energy infrastructure will also assist in meeting the needs of the province.

Mr. Gil Pedersen of the North Saskatchewan River Environmental Society criticized SaskPower's promotion of the net metering program, "SaskPower has not done an outstanding job of informing customers about its existence" (Saskatchewan 2009h, 370). This feeling was shared by Ms. Shirley Patmore who also noted, "you don't see much promotion of it, you've pretty well got to go fishing for it to find out what that whole program's about…I think a little more promotion to that program would help" (Saskatchewan 2010j, 607).

Dr. Jim Harding encouraged SaskPower moving forward towards a feed-in tariff system, "I'll tell you, we're 10 years behind other jurisdictions. But one of the recommendations and you're going to hear it all through your hearings, is we'd better get the feed-in tariff here quick" (Saskatchewan 2009b, 282).

Saskatchewan Chamber of Commerce also supported entrepreneurial enterprising in power generation. Mr. Steve McLellan said, "Another way for Saskatchewan people and businesses to help SaskPower carry out our province's energy burden is to allow individuals and businesses who generate electricity through renewable energy sources such as wind turbines and so on to sell their excess power back into the province's grid or to their neighbors" (Saskatchewan 2009i, 491).

Many cited Ontario's *Green Energy Act* as a model to strive to. Tim Weis of the Pembina Institute described it as "arguably Canada's most aggressive renewable energy law, arguably the most progressive renewable energy law ever passed in North America. (Saskatchewan 2009c, 291). Ms. Stefania Fortugno outlined the pricing incentives associated with feed-in tariff prices, "The prices in the feed-in tariff program are designed to cover project costs and allow for a reasonable return on investment over the contract term. In other words, the prices are to cover costs plus a reasonable profit (Saskatchewan 2010m, 648).

Vision of Earth members supported a feed-in tariff structure as a mechanism to encourage individuals to invest in capital projects and assist in meeting the infrastructure needs of the province. Mr. Ben Cazakoff stated:

> *Part of the reason that we think that a feed-in tariff is wise is because of the degree of investment that's required here...a feed-in tariff can stimulate public interest. So the general public can say, or just a farmer, my dad, can say, I would like a wind turbine. And he can put it up. So it's not quite the difference between a public utility and a corporation providing power. It's enabling citizens to involve themselves directly in the grid (Saskatchewan 2010p, 710).*

SaskPower Response

Ms. Judy May explained the Net Metering program which encourages residential, farm and commercial customers to set up environmentally preferred technologies for electricity generation. Customers are credited at the retail price of their generation however, if they produce more electricity than they use, the credit is banked. The credit does not get rolled over into a new year and the consumers are not financially compensated for their excess. Net metering customers may qualify for rebates for their installation.

SaskPower is watching the developments in Ontario closely. Mr. Gary Wilkinson said, "this is fairly fresh. We're reading about it quite a bit in the newspapers these days. They have just had their first lottery, I think it was, they were taking applications in I think it was October of 2009, and they're just now coming out of that experience. SaskPower is watching this with some interest..." (Saskatchewan 2010r, 814).

Officials from SaskPower noted that they are having success in getting people to install renewable energy systems with their net metering program. Given that, they cautioned against very large incentives like the ones being offered in Ontario:

> *You want to be careful with how much incentive you ask SaskPower and maybe others to come up with to incent the kinds of behaviour. Inside SaskPower, to give you a sense, inside SaskPower we have something called a net metering program, trying to get small renewables hooked up in the lower voltage areas of the province. And very roughly, the price that we're offering is about $110 a megawatt hour. Right now we have 170 people lined up in the queue process already (Saskatchewan 2010r, 814).*

4) Baseload Energy Supplies

Baseload power refers to the reliable and stable power that forms the basis of the whole generating system. Mr. Jamie McIntyre, President of the Greater Saskatoon Chamber of Commerce aptly described baseload power as, "the lifeblood of an energy system" (Saskatchewan 2010m, 668).

SaskPower

Burning coal produces the majority of Saskatchewan's electricity. The Poplar River, Boundary Dam and Shand Power Stations produce over sixteen hundred megawatts. Given the toxic and environmentally harmful aspects of burning coal, it is likely there will be financial and regulatory penalties set for coal-fired plants but currently, coal and carbon regulations have yet to be set. Because of the uncertain future of coal and carbon regulations, SaskPower is investing in carbon capture and sequestration research as a means to continue using coal, but in a cleaner and more efficient manner.

Saskatchewan is a world leader in carbon capture and storage. "Carbon dioxide, (CO_2) capture and storage (CCS) is a process consisting of the separation of CO_2 from industrial and energy related sources, transport to a storage location and long-term isolation from the atmosphere" (Intergovernmental Panel on Climate Change 2005, 3). In Saskatchewan, the carbon dioxide is captured, liquefied and sent via pipeline to aid in oil extraction (SaskPower 2009a). This is a major private-public-academic project in Saskatchewan.

a) Coal

Witness Response

Saskatchewan has an abundant supply of coal. Mining in the southeast part of the province has been steadily producing coal for electricity production for years and recently coal deposits have been discovered in the northeast. The officials from the Northeast Enterprise Region made it clear that there are opportunities in the northeast part of the province to develop coal fired plants or biomass-coal plants.

Members of industry recognized and emphasized the need for coal in the generating mix. In the witness presentations, there was a desire for increased baseload energy generation. Saskatchewan Mining Association strongly supports increased baseload generation. Mr. Fortney said:

> *Our objective here today is to underscore the need for significant new infrastructure investment in baseline power generation, transmission, and distribution capacity. Companies making multi-billion dollar investments in the province, as our companies are doing, need to have the confidence that the required baseload power generation, transmission, and distribution infrastructure is in place to support their investment and operations (*Saskatchewan 2009h, 437*).*

However, representatives from industry and communities also recognized the need to ensure that coal is emitting fewer toxins into the atmosphere. Mr. Jamie McIntyre, president of the Greater Saskatoon Chamber of Commerce stated, "Coal is responsible for over 50 per cent of global energy supply, and that's not going away. So I think the challenge that we have is to lead the world in terms of developing the clean coal technologies" (Saskatchewan 2010m, 668).

Mr. Gary St. Onge, Mayor of Estevan, the R.M. of Hart Butte, Town of Bengough and the Town of Willow Bunch all support the continued use of coal however, the current method of baseload power generation is harmful to the environment and needs to be adjusted to provide cleaner and

greener energy. Mr. David Marit, President of Saskatchewan Association of Rural Municipalities said, "SaskPower's coal-fired and natural gas electrical plants…can be maintained, adapted, and retrofitted to be made more eco-friendly and efficient" (Saskatchewan 2009h, 453).

Carbon capture and storage is a technology that could provide a cleaner and greener solution to coal fired plants while stimulating economic growth. Dr. Malcolm Wilson, a world leading researcher of carbon capture and sequestration and 2007 Nobel Peace Prize recipient, said, "I think we have no option but to move forward with carbon dioxide capture and storage. It's certainly not the cheapest process out there, but I'll also argue it's a long way from being the most expensive out there" (Saskatchewan 2009i, 478).

Strong carbon capture and storage proponents presented their views before your Committee. Mr. Michel Cyrenne of the Estevan & District Board of Tourism, Trade and Commerce said, "Carbon capture and sequestration and enhanced oil recovery technology being developed, used, and expected to be in further use in Saskatchewan provide a remarkable opportunity for environmental remediation and economic development derived from an increasing global demand for greenhouse gas reduction" (Saskatchewan 2010o, 695).

Overall, most witnesses supported carbon capture and storage however there was some concern expressed regarding the cost of it. Dr. Dan Beveridge, "it would appear that it [carbon capture and sequestration] indeed could have great potential worldwide in the long run – we have concerns about Saskatchewan footing the major part of the bill to develop this very expensive technology" (Saskatchewan 2009i, 484).

SaskPower Response

The carbon capture and storage project has an estimated value of $1 billion dollars. Mr. Garner Mitchell stated, "The carbon capture projects are very, very important to SaskPower and I believe to the province as a whole. The future of coal as we move forward, there's much more stringent environmental expectations. And so the work that we're doing on coal and clean coal technology will help us position for the future so that coal can still be part of the portfolio and part of the mix" (Saskatchewan 2010r, 812).

b) Cogeneration and Polygeneration

Efficiency has been identified as a key element to reducing demand. Cogeneration and polygeneration are examples of increasing energy efficiencies in industrial plants in Saskatchewan. Although co-and polygeneration energy production utilizes non-renewable resources, such as natural gas, it does reduce the amount of harmful emissions into the atmosphere and increases energy efficiency.

Currently, there are several cogeneration facilities operating in Saskatchewan. In 1999, the Meridian Cogeneration Station at the Husky heavy oil upgrader near Lloydminster was commissioned. The Cory Cogeneration Station was commissioned in 2003. It is a 50/50 cost sharing program with ATCO Gas at the PCS Cory Division site (SaskPower 2003). NRGreen, an affiliate to Alliance Pipeline, has four operational units in Saskatchewan including, Kerrobert, Loreburn, Estlin and Alameda. NRGreen is constructing waste heat units at Alliance's compressor stations that use technology to generate electricity from the heat emitted by the natural gas turbines (NRGreen 2009).

Witness Responses
A variety of individuals representing themselves, industry and social justice and environmental groups, see cogeneration as an opportunity. Mr. Jack Jensen wrote to the Members of the Legislative Assembly and presented his letter before your Committee showing strong support for cogeneration as a baseload power supply option as.

Mr. Steve Fortney from the Saskatchewan Mining Association supports cogeneration, "definitely we'd be interested in supporting additional cogeneration projects. It makes good sense if they can provide a reliable power source up at the northern part" (Saskatchewan 2009h, 440).

Peter Prebble from the Saskatchewan Environmental Society said, "We think there's a good opportunity for expanding cogeneration of electricity in Saskatchewan. Probably one of the best opportunities is at our potash mines where we can do industrial steam processing and electrical generation at the same time" (Saskatchewan 2009e, 359)

Finally, the officials from the Communications, Energy and Paperworkers Union of Canada also see potential opportunities in Saskatchewan:

> *There has to be a way that the government can work with business, and if it is harnessing the energy within their own operation and creating a cogen and having the ability to sell it back to the grid, it does two things. It preserves and encourages businesses to come to the province because they'll have more affordable and accessible energy, and that the public would not be hurt by it because any excess then would be put back onto the grid, so everybody would be a win-win (Saskatchewan 2010q, 755).*

SaskPower Response
In October 2009, SaskPower was questioned about past cogeneration and polygeneration proposals and their decision making process. SaskPower uses a competitive process because it brings forth the "sharpest pencils"(Saskatchewan 2009h). No further questions were asked in January 2010.

c) Nuclear

In October, the debate around nuclear power continued in the public hearings and in the written submissions but in January, much of the debate around nuclear power had subsided because the Government of Saskatchewan formally responded to the UDP report in December 2009. Some representatives from social justice and environmental groups came before your Committee to reiterate their opposition. While those that support nuclear power acknowledged that a large nuclear plant would not be appropriate at this time.

SaskPower
Nuclear power uses a fission process to heat water and produce steam which then spins turbines and produces electricity. The advantages and disadvantages were laid out by Mr. Gary Wilkinson, "the advantages of nuclear…it has low air emissions. There's an abundant fuel source in Saskatchewan, a low operating cost, new manifestations of nuclear...on the disadvantage side, you see uncertainties surrounding costs, including those incurred through decommissioning at the end of its life and long-term spent fuel" (Saskatchewan 2009a, 245).

Witness Responses
Given the high cost associated with a large scale nuclear reactor, even proponents of nuclear power supported the government's decision to not move ahead with a power plant. Mr. Walter

Keyes, member of the Canadian Nuclear Society – Saskatchewan Branch said, "Personally I agree with the government's decision not to go ahead with nuclear in this province" (Saskatchewan 2010m, 662).

Mr. Jim Corman, Vice President of Operations at Areva noted that the size of a nuclear power plant would likely be a barrier but did comment on small reactor technologies:

> *Current reactor designs are such that they would be too large for what the needs, particularly in the North, would be. That being said, there is certainly advancements and credible designs being brought forward in regards to smaller or mini-reactor technologies that potentially could be quite beneficial and useful and economic in the future" (Saskatchewan 2010l, 635).*

Mr. Dennis Lawson laid out an energy timeline for your Committee. He concluded that if the hydrogen economy emerges, Saskatchewan should consider a nuclear plant for both energy and hydrogen production. He also noted that producing nuclear power may never be required if there are advances in wind and solar technology. Lawson remarked, "we should focus on renewable energy, natural gas, clean coal, and smart electrical grids until 2030, unless this opportunity to work with the Unites States comes up. And we don't need to go nuclear until about 2050, when we need to go to hydrogen. And if in fact there are advances in wind and solar, we will never need to go nuclear" (Saskatchewan 2010r, 797).

SaskPower Response

SaskPower has not ruled out nuclear power generation. They continue to monitor the technological developments, former President Pat Youzwa said, "SaskPower has I think been monitoring nuclear power as a supply option, has been following, you know, developments in nuclear reactor technology, assessing its suitability as a supply option for Saskatchewan on an ongoing basis" (Saskatchewan 2009i, 499).

d) Natural Gas

SaskPower

There are four natural gas stations in Saskatchewan which include the Queen Elizabeth Power Station in Saskatoon, Success Power Station in Swift Current, Landis Power Station and Meadow Lake Power Station. Their combined net capacity is 475MW. SaskPower also has power purchase agreements with natural gas cogeneration facilities as discussed above. Natural gas is a fossil fuel that has emissions, although lower than coal, which may be subject to environmental regulations. It is very flexible, can meet peak demand quickly and the infrastructure is relatively inexpensive.

Witness Responses

Natural gas was discussed in the first round of public hearing but took a much more prominent role in the second round of public hearings. Witnesses from EnCana and Alliance Pipeline illustrated the abundance of resources, spoke to the flexibility that natural gas provides and addressed issues of cost. Mr. Tony Straquadine, Manager of Government Affairs for Alliance Pipeline summarized the benefits of natural gas:

> *Natural gas is a safe, reliable, environmentally sustainable, and abundant energy source that's a Canadian resource itself. Natural gas is the cleanest fossil fuel, highly efficient not only for space heating as necessary on wonderful days like today, but also for power generation needs. I think it's efficient overall. It has fewer emissions of sulphur, carbon, and nitrogen than other fossil fuels. It also*

has a lower emission intensity than other fossil fuels itself as well, and it serves well to complement or backstop, if you will, other renewable or intermittent energy sources (Saskatchewan 2010r, 789).

Mr. Eric Marsh, Executive Vice President of EnCana, was questioned about further emission reductions from natural gas plants. Marsh discussed a new carbon capture and sequestration pilot project for natural gas that is in California.

Given the benefits of natural gas, the officials from Regina Regional Opportunities Commission felt that natural gas could provide transitional energy that is cleaner than coal. Mr. Clare Kirkland said, "one of the things that we see as sort of an interim solution here — you know, who knows where we'll be in 2100 — but between now and 2050 is a robust system of renewables with extensive use of natural gas" (Saskatchewan 2010p, 744).

SaskPower Response

Your Committee had no further questions, however, on Monday February 8, 2010, SaskPower announced that they had selected a natural gas power provider to build a facility located in the North Battleford area, "to provide 261 megawatts of power to the provincial electrical grid in 2013... A 20-year power purchase agreement for the new facility will provide baseload generation for our province" (SaskPower 2010).

5) Transmission, Distribution & Interties

SaskPower

SaskPower operates the second largest service area in Canada, they have 13,500 kilometers of high voltage transmission lines, 52 high voltage switching stations, 144,400 kilometers of distribution voltage lines, 183 distribution stations and more than 150,000 pole top and pad mounted transformers (CCA 145/26). SaskPower is also interconnected to adjoining electrical utilities in Manitoba, Alberta and North Dakota through seven tie-lines (CCA 145/26).

Mr. Gary Wilkinson outlined the benefits and challenges of interconnections between neighbouring utilities:

The interconnections to the outside world would solve a multitude of sins. You get surprised by a load, no problem; you have multiple outages, no problem; you want market advantage to sell, no problem; you want to buy, no problem. Get interconnected to the outside world is a great idea. A little tough to do because you're now talking about your neighbours' systems, not just your own, and they all have to be negotiated. We're finding more and more interest in a number of neighbours in this facet as well" (Saskatchewan 2009a, 241).

Witness Responses

Presenters from Cameco Corporation and Areva Resources Canada wanted immediate action taken to upgrade the transmission and distribution in the north to ensure grid stability for their mining operations. Mr. David Neuburger recommended that, "SaskPower and the province of Saskatchewan move forward decisively and aggressively to put the comprehensive plan for upgrading the Far North transmission system into action" (Saskatchewan 2010l, 633).

Many witnesses also saw the benefits of expanding interties with other jurisdictions. Mr. Kent Smith-Windsor put great emphasis on Saskatchewan upgrading and expanding interties on the transmission grid, "SaskPower needs some focus, that they ought to be looking very extensively at upgrading their

transmission grid, not only within the province, but also in a pan-regional perspective to other provinces and perhaps even into the United States" (Saskatchewan 2010m, 667).

The Communications, Energy and Paperworkers Union of Canada also supported a larger, pan-Canadian grid. Ms. Wendy Sol stated, "Saskatchewan could greatly benefit if it could be part of a much larger cross-Canada grid. Canada has yet to fully realize the national benefits of interprovincial electricity trade because electricity transmission systems have been developed on a provincial basis with the primary focus on meeting individual provincial needs and not broader regional and national interests" (Saskatchewan 2010q, 751).

SaskPower Response

As stated previously, SaskPower already has interties with other jurisdictions. In October 2009, Mr. Gary Wilkinson illustrated the cost of expanding intertie connections between jurisdictions. Again, he emphasized that the cost depends on the size and capability that one would transfer between regions:

> *To move, I'm going to say, about 1000 to 1500 megawatts across the region – I'm talking Manitoba, Saskatchewan, Alberta – the price tag for that...It's a single line. It reaches from Manitoba to someplace in the Regina area – at least this is the concept – and then reaches into the Calgary area. The price tag for that is, an HVDC [high voltage direct current] line, is around $2.6 billion...Between ourselves and Manitoba, if we added just a single 230 kilovolt line, not the HVDC, just 50 to 100 million is sort of, per line is not entirely unreasonable for that size. And that wouldn't get you anywhere close to 1,500 megawatts. That'd get you maybe 50 to 100 megawatts of transfer capability (Saskatchewan2009i, 518)*

In January 2010, your Committee asked SaskPower officials about the implementation of a smart grid. Officials indicated that they already have a smart transmission system as a result of computerized upgrades that occurred in the 1980s and 90s. SaskPower is also working to ensure that cyber security measures are strong enough that the system is protected from any outside dangers. It is also analyzing advanced metering systems as the foundation of a more complex system.

6) Decentralize & Downsize

Downsizing and decentralizing power generation was consistently discussed by witnesses in the first and second round of public hearings. Many witnesses felt that this would lead to good jobs, rural economic development and the revitalization of small town Saskatchewan. Members of Save Our Saskatchewan clearly stated, "The development of renewable energy allows numerous people from all over the province to share in the benefits of producing power rather than a chosen few. People in our community look forward to the time when we can do our part and provide safe and clean energy for others in the province" (Saskatchewan 2009e, 373). Mr. David Geary of Clean Green Saskatchewan said, "A shift toward renewable distributed electrical generation could greatly benefit many communities throughout the province, north to south, by providing high-quality, long-term jobs" (Saskatchewan 2009f, 396).

Many witnesses believed that this would reduce line losses and make a more stable system. Ms. Shirley Patmore concisely summarized many of the benefits that both she and others believed could be gained with a distributed system, "Centralized generation requires greater investment in high voltage distribution systems, which could be reduced by decentralization. This would have the added benefits of better security of supply by eliminating huge blackouts when one major plant goes down, less line loss, and lower cost . . ." (Saskatchewan 2010j, 603).

SaskPower Response

In October, Mr. Gary Wilkinson explained the economics and stability of a centralized system as opposed to a dispersed system. He said, "One of the things you'll find, often you'll find when you go to the smaller scales of generation, it becomes more expensive…We grew up over the last 50 years actually trying to get economies of scale to try to drive the cost down" (Saskatchewan 2009i, 521). Furthermore, he stated that a dispersed system could potentially compromise the stability "it's a decently complex business, and if you allow anyone to put just any kind of generator up, it's not long before the neighbour who lives beside that person is having voltage trouble, and they often come to SaskPower, but it may not be an issue of our making" (Saskatchewan 2009i, 521).

7) Saskatchewan Educational Institutions

Witness Responses

Many witnesses believed that the post-secondary institutions in Saskatchewan should play a crucial role in researching and training students for future green energy careers. Mr. Steve Lawrence from Renewable Power the Intelligent Choice said, "if we're going to prepare for the future, and we're going to hire Saskatchewan people without bringing people in from outside – we really need to start getting programs in our post-secondary institutions so that we can be up and running with the best of them" (Saskatchewan 2009d, 338).

Mr. Peter Prebble from the Saskatchewan Environmental Society offered specific solutions, "All our electricians, for example, should be trained at SIAST [Saskatchewan Institute of Applied Science and Technology] to install solar photovoltaic systems so that they're ready for that when the price of solar PV [photovoltaic] drops. (Saskatchewan 2009e, 359).

Other witnesses wanted to see the development of center of excellence at the University of Saskatchewan. Mr. Ron Oberth of AECL saw great potential for Saskatchewan being home to a nuclear center of excellence while others, such as Sandra Finley and Cathy Holtslander, thought it would be more appropriate to have a renewable energy center of excellence.

8) First Nations and Métis Involvement

Witness Responses

Witnesses supported community partnerships with First Nations. Peter Ballantyne Cree Nation discussed potential hydro projects. Councilor Nataweyes said

> *PBCN should be given priority status in becoming hydro development partners with SaskPower and Saskatchewan in the northeastern region...We could provide the stimulus to move the projects forward and help meet the rural electrical demand in northeastern Saskatchewan and elsewhere. We are ready to enter a new era of co-operation and partnership with SaskPower and Saskatchewan to work towards a positive energy future (*Saskatchewan 2009g, 427*).*

First Nations and Métis involvement in power production was seen as a great opportunity for economic development in their communities and for a strong, provincial economy. Mr. Kent Smith-Windsor stated, "In terms of successfully engaging the First Nations community, the best opportunity we have is a robust economy; the more opportunities we create, the more successes we'll have, and that's why it does pull back to this affordable, dependable power. . . We need thousands of new opportunities to successfully engage First Nations people — thousands, not a few" (Saskatchewan 2010m, 671).

Ms. Stefania Fortugno cited incentives in Ontario's feed-in-tariff structure that has spurred Aboriginal participation in energy production. She stated, "Aboriginal and community-based projects receive this special treatment in order to promote their development. The incentives include reduced security payments and an additional price incentive or "adder," for example, an extra 1.5 cents per kilowatt hour for wind power from an Aboriginal wind project" Saskatchewan 2010m, 648).

Mr. Trent Blind from Gordon's First Nation also offered your Committee a recommendation. He would like to see Saskatchewan government, "develop and implement a First Nation procurement strategy for wind power and other alternative energy projects" (Saskatchewan 2010p, 722).

SaskPower Response

Mr. Garner Mitchell responded to questions about First Nations and Métis involvement in partnerships. Mr. Mitchell stated, "We've had a real success with working with First Nations communities, and we're quite proud of that. And we see lots of opportunity and, you know, I think our shareholders are very open-minded. And we'll certainly communicate some of the ideas and see where it goes" (Saskatchewan 2010r, 833).

SaskPower was questioned about a potential hydro partnership with the Peter Ballantyne First Nation. SaskPower was very positive about the information. Mr. Garner Mitchell, Vice President of Power Production said, "I think it's very encouraging that the Peter Ballantyne Cree Nation are interested because we have been encouraging them for years and years and saying look it, let's work together. And so I think it's just great news that they're expressing current interest because that really can go someplace" (Saskatchewan 2009g, 516).

SUMMARY OF PRESENTATIONS

October 2009

Witness testimony began on October 6, 2009. There were a total of 32 different presentations – 17 in Regina, 12 in Saskatoon and three in La Ronge. There were six individuals, ten social justice and environmental groups, nine representatives from industry, four presentations from representative organizations, one political party and two First Nations.

October 6, 2009

SaskPower

Your Committee commenced public hearings on Saskatchewan's energy needs and dedicated the entire day to hearing from SaskPower officials. The officials from SaskPower tabled two documents, a Power Point Presentation (CCA 145/26) and a written submission, titled *Powering a Sustainable Future: the Electricity and Conservation Strategy for Meeting Saskatchewan's Needs* (CCA 144/26).

SaskPower senior executives provided an overview and described the challenges that lay ahead. The executives that provided testimony included: Ms. Pat Youzwa, President and Chief Executive Officer, Mr. Sandeep Kalra, Vice-President and Chief Financial Officer, Kevin Doherty, Vice President of Marketing and Communications, Mr. Mike Marsh, Vice-President in Transmission and Distribution, Ms. Judy May, Vice-President of Customer Services, Mr. Garner Mitchell, Vice President of Power Production, Mr. Mike Monea, Vice President of Integrated Carbon Capture and Sequestration Projects and Mr. Gary Wilkinson, Vice-President of Planning, Environment and Regulatory Affairs.

a) *Key Highlights*
- SaskPower's total available generating capacity is 3,641MW
- Coal-fired electricity serves as the foundation of the SaskPower system
- SaskPower serves the second largest area in Canada and the customer base is spread out over a large land base
- At a crossroad between "unprecedented demand for power from customers due to the momentum of the provincial economy" (CCA 145/26) and an aging infrastructure
- SaskPower will have to rebuild, replace, or acquire 4,100 MW of electricity by 2030(CCA 145/26)

b) *Energy Demand*

SaskPower explained forecasting energy demand and the growing demand for energy. In the latter part of 2007, SaskPower began to experience demand changes and in 2008, it was confirmed that SaskPower demands were in fact experiencing great increases. As outlined in their power point presentation, SaskPower's demand has grown by an average of 1.3% each year. During the next decade, demand is expected to increase by 3% per year" (SaskPower 2009a).

c) *Forecasting*

Forecasting provides SaskPower the basis for demand expectations. Forecasting begins in January each year and takes a number of factors into consideration:
- Information provided by industrial customers (78 accounts; 35 of the 78 accounts consume 45% of the energy used in the province)
- Economic variables (GDP, population, households and commercial data)
- Weather data from Environment Canada
- Customer surveys about residential and commercial end-use
- Historical load data

Industrial customers are the primary driver of the growing energy demand. Average annual system energy growth for the province is 3.5%, whereas the forecasted average annual industrial energy growth is 6.7%. There will be aggressive load growth by the industrial accounts for the next 10 years and beyond (CCA 145/26).

d) Aging Infrastructure

The second challenge facing SaskPower is aging infrastructure. SaskPower highlighted that the facilities, distribution and transmission infrastructure is nearing their life expectancy and the high demand is exceeding the original design capabilities. SaskPower is also experiencing environmental and operational challenges. The environmental challenges are related to reducing greenhouse gas emissions and coal regulations. Considering the baseload energy source is coal, Saskatchewan has to pay particularly close attention to any new coal regulations as they will have great impact on our energy source.

e) Operational Challenges

SaskPower must 'balance the system' meaning that they "must constantly and precisely balance the supply of power and the demands of customers" (SaskPower 2009a). The Grid Control Center informs stations every four seconds to either increase or decrease load. A key component to 'balancing the system' is interconnection with neighboring jurisdictions. This assures reliability and stability of the province's electrical supply. Saskatchewan is part of the Eastern Interconnection – this includes Manitoba, Ontario, North and South Dakota and many other states in the Eastern United States. Alberta, British Columbia, half of Montana and many other Western United States belong to the Western Interconnection. This poses synchronism problems between the East and West Interconnection and if conversion is to occur between the East and the West (i.e. between Alberta and Saskatchewan) a lot of costly equipment is required for a conversion station. Currently Saskatchewan has one conversion station on the Alberta/Saskatchewan border.

In order to 'balance the system' SaskPower engages in an intensive supply planning process and evaluates all its options. The right energy mix gives the province a secure electricity supply. In the five year short-term time frame, SaskPower states, "the necessary actions are already underway to ensure the appropriate infrastructure is in place to meet projected demand" (SaskPower 2009a). This includes: demand side management, installing natural gas turbines and wind turbines, carbon capture and sequestration, short-term contracts with neighboring utilities and better short-term load forecasting.

Further into the future, 2015-2022, SaskPower is continuing to look at demand side management, evaluating and pursuing new supply options, investigating electricity storage and smart grid technologies, partnerships with First Nations, independent power producers (IPP) and intertie capacity with neighboring utilities (SaskPower 2009a).

In the long-term future, 2023 and beyond, SaskPower will continue demand response initiatives and energy efficiency. It will be pursuing new generation technologies and continued evaluation of other energy supplies. Mr. Gary Wilkinson touched on small-scale nuclear power as an energy source. New small scale nuclear power plants may begin to see licensing in about 2015. If Saskatchewan is to move in the nuclear direction, a small scale reactor may be a more appropriate size of reactor given the population size and electricity use.

f) Future Options

SaskPower concluded their presentation with a discussion of future energy supply options which include: biomass, carbon capture and sequestration, coal compliant, demand-side management,

hydro (reservoir and run-of-river), imports, natural gas-fired generation (simple cycle, combined cycle and cogeneration) nuclear, polygeneration, solar and wind.

Ms. Pat Youzwa, President and CEO of SaskPower, concluded by stating, "Regardless of which supply option we choose, we know that the costs associated with new or rebuilt generation, transmission and distribution facilities will put cost pressures on SaskPower and we can expect to see our expenses increase" (Saskatchewan 2009a).

October 7, 2009 – Regina

NuCoal Energy Corporation– Alan Cruickshank, CEO and President
Alan Cruickshank of NuCoal Energy Corporation presented their *South 50 Project* - a polygeneration project that will use gasification of low rank stranded coal into transportation fuels, chemicals, fertilizer and electrical power. The plant itself produces 1400 MW and would use the majority of the electricity but could potentially have between 300-400MW of electricity made available to the grid from the polygeneration plant.

KAIROS, Fort Qu'Appelle Chapter – Dr. Jim Harding
Dr. Harding provided a broad perspective of the impact of greenhouse gases and the need for renewable energy sources. The proposed three-point plan was outlined in KAIROS' document, *Too Earth-Shaking to be Partisan* which states that energy policy should be "integrated" with other policies such as food security, water protection and so on; a movement towards sustainable energy which includes a reduction in demand through efficiency and conservation, increasing wind targets to 20%, upgrading interconnection with Manitoba hydro, expand public transportation and move towards a smart grid and finally embracing ecologically sustainable development such as organic agriculture and run-of-river hydro and biomass.

Council of Canadians, Moose Jaw Chapter – Don Mitchell
Don Mitchell, as the representative of the Council of Canadians, Moose Jaw Chapter, relayed a four step strategy that focusing on renewable energy sources to meet Saskatchewan's growing energy needs and that includes establishing a renewable electricity task force, developing a comprehensive energy efficiency and conservation strategy, conduct an assessment of renewable energy for Saskatchewan and earmark funds for Renewable Energy. Mr. Mitchell highlighted several renewable sources including wind, hydro, biomass, geothermal and micro-power (small scale wind, solar and cogeneration) large scale cogeneration and recovered industrial energy.

Helix Geologic Consulting Ltd. – Brian Brunskill
Mr. Brunskill brought forth his recent research, *Saskatchewan's Deep Geothermal Energy Potential* to your Committee. Below the surface of Southern Saskatchewan to the Precambrian Shield is the Deadwood Aquifer which has heated water that ranges in temperatures from 60-105°C exists. This can be pumped to the surface for heating and electricity production. This technology is best suited for the South Eastern portions of the province.

October 8, 2009 – Regina

CCG Trade & Development – Dave Kutcher
CCG Trade & Development is an agent for the China National Machinery Import and Export Corporation (CMEC). CMEC is interested in exploring biomass electricity options with First Nations, northern communities and/or forestry companies. CMEC has a variety of "turn-key" facilities ranging in sizes from 2x3MW to 2x15MW.

Pembina Institute - Tim Weis, Director Renewable Energy and Efficiency
Mr. Tim Weis of the Pembina Institute, stated that Saskatchewan has two sister provinces, Alberta and Nova Scotia, because of the provinces' reliance on coal as their primary source of electricity production. He strongly supported a renewable energy mix with wind providing 20% of the electricity load.

Green Party of Saskatchewan – Larissa Shasko
The Green Party of Saskatchewan strongly opposes a nuclear power reactor in Saskatchewan and argued that Saskatchewan's electricity needs can be met with simple, clean and affordable power. The Green Party of Saskatchewan outlined a plan which included, a Smart Grid, SaskPower purchase renewable electricity from other producers, ending subsidies to non-renewable resources and transferring those subsidies to renewable sources, legislation that ensures the use of passive solar and the installment of green switches in all new homes and developments.

October 9, 2009 - Saskatoon

Save Our Saskatchewan (S.O.S) – Aaron Hougham, President and Daron Priest, Vice President
The members of S.O.S are a group of concerned citizens from Lloydminster and were formed in response to the nuclear question. Their community strongly opposes the development of nuclear power in Saskatchewan and support renewable energy options. They explained that conservation should be made a priority through legislation and incentives such as selling power back to the grid. They also thought that people in Saskatchewan are willing to increase their electricity rates if they knew it was for renewable energy sources.

Dr. James Penna
Dr. Penna highlighted the moral and political implications of the hearings. He stated that the earth has intrinsic value and that there is no I/It dichotomy; the human race is tied to the earth.

Renewable Power the Intelligent Choice – Steve Lawrence
Mr. Lawrence echoed Dan Perrins' report *Future of Uranium Public Consultation Process* recommendation that expert research be conducted and provided to the public to digest. He proposed that an integrated energy system, such as solar, wind and hydro, and a smart grid.

Sandra Finley
Ms. Finley strongly argued that Saskatchewan's growing energy needs are due to the Tar Sand projects. She supports research and experimentation with renewable energy sources to determine the right mix for Saskatchewan.

Council of Canadians Prince Albert Chapter - Rick Sawa
Mr. Sawa came before your Committee to encourage the members to get experts to conduct a study on the needs, options and costs of alternative energy options.

October 13, 2009 – Saskatoon

Saskatchewan Environmental Society (SES) – Peter Prebble
Mr. Prebble reaffirmed the Saskatchewan Environmental Society's opposition to nuclear power. The organization recommended conservation methods followed by renewable energy sources to meet Saskatchewan's growing energy needs.

Low Energy Design – Mark Bigland-Pritchard
Mr. Bigland-Pritchard's presentation comprised of an overview of traditional renewable energy sources such as wind, solar and hydro. He discussed two additional forms of biomass – torrefaction and biochar. He recommended that these two areas needed further research.

Canadian Wind Energy Association (CanWEA) – David Huggill
Mr. Huggill presented the benefits of wind power. His organization, which represents 400 members, is advocating that 20% of Canada's energy be produced by wind by 2025.

October 14, 2009 – Saskatoon

Atomic Energy of Canada Ltd. (AECL) – Ron Oberth
Mr. Oberth introduced AECL and the CANDU reactor technology. He stated that there is a "nuclear renaissance" because of the world's growing need to provide a clean baseload energy source. He addressed environmental concerns and storage questions.

Cathy Holtslander
Ms. Holtslander began her presentation by outlining the broad context in which these hearing are being held and highlighted several jurisdictions moving towards renewable energy sources. The members solicited Ms. Holtslander for her opinion on a number of topics – energy mix, debt associated with renewing the energy system, rate increases and potential interest in decentralized energy.

Clean Green Saskatchewan – David Geary
Mr. Geary discussed the risks associated with nuclear power. Clean Green Saskatchewan supports decentralized power generation in conjunction with SaskPower.

Solar Outpost – David Anderson
Solar Outpost supplies residential and commercial sized photovoltaic, solar heating, wind and geothermal installations. Mr. Anderson emphasized Saskatchewan's exceptional sun and wind resources and featured his company's systems.

October 15, 2009 – La Ronge

Meadow Lake Tribal Council Resource Development Ltd. – Ben Voss, CEO and Erin Duff, Junior Analyst
MLTC Resource Development Ltd. signed a Memorandum of Understanding with Pristine Power Inc. and identified two biomass projects, the Meadow Lake Combined Cycle-Biomass and Northern Mine Site Biomass Co-Gen, as priority projects. The Meadow Lake Combined Cycle-Biomass would produce a total of 84MW and the Northern Mine Site Biomass Co-Gen could be up to 5x9MW Biomass Rankine Cycle heat recovery for mine heat applications.

Dave Elliot
Mr. Elliot discussed coal gasification and the potential for underground coal gasification (UCG) for the La Ronge area. Production of methane from coal beds in traditional petroleum engineering practices may be an option for La Ronge and many parts of the north because they reside above the Mannville coal bed.

Peter Ballantyne Cree Nation – Harvey Nataweyes, Stanley Merasty and Dale P. Reid
The members of the Peter Ballantyne Cree Nation discussed two hydro projects that they are interested in exploring with SaskPower. They believe they can produce roughly 200MW on Island Falls and Whitesand Dams without environmental impacts because these Dams are part of a water control system.

October 16, 2009 – Regina

Saskatchewan Mining Association – Pam Schwann, Executive Director and Steve Fortney, Chair of the Potash Section and General Manager of PotashCorp Rocanville Mine
Members of the Saskatchewan Mining Association came before your Committee to show support for "significant new infrastructure investment in baseload power generation, transmission and distribution capacity" (CCA 192/26). They estimated that 20 of their members are those industrial customers that SaskPower provides the most energy to and in order for Saskatchewan's resource industry to continue growing they need power.

Wade Zawalski
Mr. Zawalski discussed solar technologies and made it clear that the technology is changing very rapidly which in turn, is lowering prices.

Saskatchewan Association of Rural Municipalities –David Marit, President
SARM supports continued use of coal as the baseload power supply but also supports wind, solar and nuclear which could meet the expected increase in demand. Their members would like to see the coal-fired plants maintained and adapted to meet the current and expected federal regulations.

Kelln Solar – Ken Kelln, President and General Manager
Mr. Kelln highlighted the dramatic changes in the solar industry and the subsequent decreasing solar prices. He recommended removing PST on renewable energy sources, building demonstration homes that highlight energy efficiency, feed-in tariffs and low interest rate loans for renewable energy sources.

Pedersen Apiaries Ltd. – Karen Pedersen, President
Ms. Pedersen provided her business' experience as a case study about energy and heating. Through extensive research and site analysis she began to understand the interconnected relationship between heating and energy.

North Saskatchewan River Environmental Society – Gil Pedersen
This organization was established in response to the potential of nuclear power in Saskatchewan. They do not support the development of a nuclear power plant and are critical of the assumption that energy demands need to increase. They support conservation to help reduce consumption.

October 19, 2009 – Regina

Dr. Malcolm Wilson
Dr. Wilson recognizes Saskatchewan's large energy sources and supports continued use of coal, the development of carbon capture and sequestration research, renewable energy sources, such as biomass and geothermal, and believes nuclear has a role to play in the long range energy mix.

KAIROS, Regina Chapter - Dr. Dan Beveridge
Dr. Dan Beveridge, as a representative of KAIROS-Regina, emphasized opposition to nuclear and continued support for energy conservation, efficiency and renewables. KAIROS made six recommendations which included, calling on expert witnesses, look to other jurisdictions that are leading the way in sustainable societies, conduct education programs through Universities and NGOs, invest in an integrated system of conservation, efficiency and renewables, cogeneration and a smart grid, create a Centre of Excellence, increase the Standing Committee on Crown and Central Agencies' budget to address other sources of energy

Saskatchewan Chamber of Commerce – Steve McLellan, CEO
The Saskatchewan Chamber of Commerce encourages exploring all energy options which will lead to stability and sustainability. In their written submission, they discussed all options including fossil fuels, renewable energy sources and nuclear energy sources. They argued that if there is a strong business case for any type of power generation option by SaskPower or private business, then it should be fully explored.

SaskPower
On the final day of the first round of public hearings, SaskPower responded to questions from your Committee on the following topics:

- transmission and distribution,
- demand side management and energy efficiency
- renewables – wind, hydro,
- process for Independent Power Producer bids, purchase agreements and pricing
- corporate planning in regards to infrastructure upgrades,
- Dispersed generation system and current programs

In SaskPower's concluding remarks, they urged your Committee to act prudently. They stated that the matter is complex, that the stakes are high and that there is "no silver bullet" solution. Finally, President Youzwa stated, "there's an undeniable urge to make long-term decisions today to be seen to be ahead of the pack. But I would suggest to the members here that this approach is not only irresponsible but could also result in unnecessarily higher electrical costs for all of us" (Saskatchewan 2009i).

<u>January 2010</u>
Witness testimony resumed on January 18, 2010. There were a total of 31 presentations – four in Lloydminster, two in Prince Albert, six in Saskatoon, three in Yorkton, one in Estevan and 15 in Regina. Presenters included: seven individuals, five social justice and environmental groups, eight representatives from industry, six presentations from representative organizations, two First Nation groups, two communities and one research organization.

January 18, 2010 – Lloydminster

Heidi Hougham
Ms. Hougham made eight recommendations to your Committee which focused on determining whether or not growth is occurring, what is causing the increased demand, conservation methods to curb growth and renewable energy sources to meet new demand.

Christine Pike
Ms. Pike made calls for the Government to encourage conservation, disperse manufacturing plants and power generation facilities, as well as greater regionalized power ties.

Shirley & John Patmore
Mr. and Mrs. Patmore strongly urged conservation. Mrs. Patmore outlined conservation strategies for residential, commercial and industrial users while Mr. Patmore discussed a pricing strategy that would increase prices as homeowners exceed their prescribed amount.

Daron & Grady Priest
Mr. Priest reiterated his opposition to nuclear and support for natural gas. Mr. Priest was about incentives and he did not believe that monetary compensation was necessarily the only option but thought that if the information was up-front and user-friendly, consumers would begin implementing 'green' technologies

January 19, 2010 – Prince Albert

Jack Jensen
Mr. Jensen addressed two topics: greening government and government funded buildings and cogeneration as an energy option. He discussed alternative energy bonds as a funding mechanism for green technology.

Renewable Power, the Intelligent Choice – John Thornton
Renewable Power, the Intelligent Choice considers energy efficiency and conservation the best strategies for meeting Saskatchewan's energy needs however; they do believe that participation in Saskatchewan has been slow. They made eight recommendations which focused on improving building codes to increase energy efficiency.

January 20, 2010 – Saskatoon

Cameco Corporation and Areva Resources Canada - Jim Corman, Vice President, Operations, Areva Resources Canada, Roman Strzeszewski, Manager, Mill Projects, Areva Resources Canada, Dave Neuburger - Vice-President, Mining, Cameco Corporation and Ken Gullen, Director, Technical Services, Cameco Corporation
To maintain and expand their mining operations, the companies require a stable, secure and dependable energy system, therefore the officials from Cameco and Areva advocated hydroelectricity expansion and transmission upgrades to the North.

Meadow Lake Tribal Council Resource Development Inc. - Ben Voss, Chief Executive Officer
Mr. Voss outlined MLTC Resource Development Inc.'s proposed power projects and more precise costs for power. He also stated that they have provided their information as an unsolicited proposal to SaskPower and will be engaged in technical and planning meetings in the near future.

January 21, 2010 – Saskatoon

Stefania Fortugno
Ms. Fortugno highlighted legislative mechanisms from other jurisdictions that could provide guidance for your Committee when reporting recommendations to the Legislature. She stressed the need for a feed-in-tariff system similar to that of Ontario and a residential solar lease initiative such as the one used in California.

Saskatchewan Conference United Church of Canada - Rev. Margaret McKechney
Rev. McKechney discussed conservation, a combination of renewable energy sources and smart technologies to meet Saskatchewan's energy needs. She encouraged the government to set higher conservation targets and continue with incentives to meet the need. She also advised your Committee that the programs that are currently in place require higher visibility and need to be more customer-friendly.

Canadian Nuclear Society - Walter Keyes
Mr. Keyes reviewed the history and opportunities of nuclear power in Saskatchewan. He argued that nuclear power should be considered as part of the energy basket, but was supportive of the Saskatchewan government's decision not to pursue a nuclear power plant at this time.

The Greater Saskatoon Chamber of Commerce - Jamie McIntyre, President and Kent Smith-Windsor, Executive Director
The Chamber believes estimated power needs outlined by SaskPower and the Saskatchewan Mining Association is insufficient because their estimations do not account for population growth, oil sands development and irrigation. They recommended SaskPower focus on the transmission grid, on independent power producers as well as on continued research in carbon, capture and sequestration.

January 22, 2010 – Yorkton

North East Enterprise Region - Patrick Chopik, Chief Executive Officer and Dave Ferguson, Economic Development Officer
Given the abundance of coal and forestry residue in the northeast, the officials presented several power generation options, outlining their pros and cons. The options included a coal fired clean coal power plant, a series of carbon neutral wood fired power plants, bio-mass/co-generation plants with existing forestry industry and value added agricultural products or mixed coal and bio-mass power generation. Well established infrastructure exists in the region and could support power generation facilities in the northeast.

Precision Rewind – Carey Fyke
Mr. Fyke discussed a variety of waste disposal methods including landfill gas collection, gasification, plasma arc gasification, pyrolysis, anaerobic digestion and incineration. He supports the development of continuous burn incinerators because the heat would be used to run steam turbines.

City of Yorkton and Agmar International Marketing – David Putz, City Manager and Judie Dyck, Vice President of Agmar
Yorkton is proposing a waste centre that will use pyrolysis to convert waste to power. The proposed pilot project would use eight tons of waste a day to generate sufficient power to operate the sewage treatment plant.

January 25, 2010 – Estevan

Estevan and District Board of Tourism, Trade and Commerce, City of Estevan and RM of Estevan - Rodney Beatty and Michel Cyrenne - Estevan and District Board of Tourism, Trade and Commerce, Gary St. Onge, Mayor of the City of Estevan and Kelly Lafrentz, RM of Estevan #5
The City of Estevan and neighboring communities support the use of coal as a baseload energy supply because it is economical and plentiful in the province. They support Carbon Capture and Sequestration (CCS) research as a means for mitigating penalties associated with greenhouse gases and view CCS as an economic driver for their community and the province. They also note that the pricing regime should support conservation and independent power production should be encouraged.

January 27, 2010 – Regina

Vision of Earth - Mark Cazakoff, Ben Harack, Kyle Laskowski
The presenters from Vision of Earth discussed feed-in-tariffs, smart grids, LEED building standards and wind power. Of particular importance, the presenters examined Ontario's feed-in-tariff structure and adjusted the pricing mechanism for small scale power producers (under 100kW) based on Saskatchewan's wind and solar potential. They also noted the introduction of smart meters with time-of-day pricing to complement conservation strategies.

CCG Trade and Development – Dave Kutcher
Mr. Kutcher highlighted new information he has received regarding biomass supplies and pricing. He argued that harvesting the forest had the best potential for biomass power production. Following his first presentation to the Committee, he conducted a series of computerized models and discovered that biomass in Saskatchewan would cost between 11.2 cents/kW and 16.8 cents/kw.

ATCO GeoWind Energy Development – Chief Ken Sinclair, George Gordon First Nation, Trent Blind, George Gordon First Nation Holdings Inc and Paul Blaha, VP Development, ATCO Power
ATCO Power and Gordon's First Nation signed an agreement to partner on a $200-400 million wind project. They emphasized the need for a Saskatchewan Aboriginal Procurement policy which gives preference to wind projects with First Nations involvement.

HTC Purenergy Inc. – Lionel Kambeitz, Chairman and Chief Executive Officer
Mr. Kambeitz discussed the core business capabilities of HTC Purenergy which include carbon capture, carbon enhanced oil recovery and carbon storage. He highlighted the long history of research and the economic opportunities in Saskatchewan and their pilot project at Boundary Dam.

Council of Canadians, Regina Chapter – Jim Elliott, Chairperson
Mr. Elliott made recommendations to your Committee which included a pricing mechanism that increases during peak hours, energy efficiency promotion, feed-in-tariff opportunities to provide localized energy and jobs and improvements to the grid to reduce line loss.

Regina Regional Opportunities Commission – Larry Hiles, President and Chief Executive Officer, Clare Kirkland, Director of Strategic Development
The officials view the energy discussions as an opportunity to have understanding and cooperation in the province. They want to take this opportunity to have structured engagement events that will educate people about the choices and decisions the province and the people of the province have, understand who the province needs as partners, understand the value proposition and build a sense of opportunity and venture.

January 28, 2010 – Regina

Communication, Energy and Paperworkers Union – Wendy Sol, Administrative Vice President and Dan Bailey, President of CEP Local 649
The officials from CEP outlined their energy strategy which, "promotes major reductions to the environmental impact of consumer and industrial society" (CCA 261/26). They made recommendations to your Committee which included: strengthening conservation targets, using natural gas to transition to a low carbon emitting society, use of wind and small-scale hydro and the establishment of a buy-back scheme that will give customers the option to sell excess power back to the grid.

EnCana – Eric Marsh, Executive Vice President Natural Gas Economy and Wayne Geis, Vice President Natural Gas Economy Strategic Planning
Mr. Marsh discussed natural gas as an essential tool to meet emissions targets. Natural gas is abundant and burns cleaner than coal. EnCana would not be building power plants but would be providing natural gas to the power plants. The officials showed that based on a 230MMCf/d proposed plan for power generation, the province would see an additional $19.9M in revenue and 2900 jobs.

Clean Green Regina – Catherine Gibson, Elaine Grass and Sylvie Roy
The members of Clean Green Regina promoted conservation, efficiency and renewable energy as methods for meeting Saskatchewan's energy needs. They also noted that energy decisions today could have long-lasting impacts on future generations and that energy policy should be integrated with other policy decisions.

Regional Centre of Expertise on Education for Sustainable Development – Dr. Tanya Dahms, Vic Ellis and Dr. Katherine Arbuthnott
The members of the RCE proposed solutions to meet energy needs of the province of Saskatchewan which included energy conservation, renewable energy, renewable energy storage and upgrades to smart-grid technology.

Al Taylor
Mr. Taylor highlighted jurisdictions that he felt are leading examples in renewable technology.

January 29, 2010 – Regina

Alliance Pipeline – Tony Straquadine, Manager of Government Affairs and Tim Dacey, Operations General Manager
Alliance Pipeline is an interprovincial and international transporter of natural gas. They have an extensive pipeline that extends from northern British Columbia to Chicago through Saskatchewan and also have four compressor stations in Saskatchewan that produce roughly five megawatts of power per hour for the grid. They would not be building a power generation plant but rather, would transport natural gas to produce energy.

Lawson Environmental Services – Dennis Lawson, President
Mr. Lawson laid out an energy timeline for your Committee. He concluded that if the hydrogen economy emerges, Saskatchewan should consider a nuclear plant for both energy and hydrogen production. He also noted that producing nuclear power may never be required if there are advances in wind and solar technology.

International Brotherhood of Electrical Workers (IBEW Local 2067) – Neil Collins, Business Manager
Mr. Collins discussed a variety of energy options and their benefits and challenges. He posed fundamental questions to your Committee which included: "who will supply it, how much you're willing to pay for it, are we going to lead the energy technology debate or just follow the pack?" (Saskatchewan 2010r, 806).

SaskPower

On the final day of the second round of public hearings, SaskPower responded to questions from your Committee on the following topics:

- Demand side management and energy efficiency
- Renewable energy sources
- Advanced metering systems and smart grids
- First Nations and Métis partnerships
- Request for Proposal process for CO_2 capture systems for the Boundary Dam and Green Options Partners Program
- Green Options Partners Program
- Ontario's Feed-In Tariff program
- Transmission and distribution,

Witness presentations and tabled documents can be found on your Committee's website. www.legassembly.sk.ca/committees

SUMMARY OF WRITTEN SUBMISSIONS

In addition to the witness presentations, your Committee also invited those who were interested but were not able to appear before your Committee to make a written submission. Forty-two written submissions were received by your Committee. Twenty-three of the submissions were from individuals, 3 from social justice and environmental groups, 1 from a political party, 2 from representative organizations, 5 from industry (two companies made two submissions), 5 submissions were from communities, and 1 from a research institution.

The vast majority of individuals supported conservation and renewable energy sources, such as wind, solar and biomass while three individuals supported the development of nuclear power. Dr. Bev Robertson Professor Emeritus Physics, University of Regina writes, "Nuclear Energy is not a theory. It is a large body of knowledge, based on many scientific and engineering disciplines, but also on decades of experience" (CCA 230/26).

The social justice and environmental organization and the political party supported conservation and renewable sources. Dr. Jim Harding from KAIROS – Regina Chapter submitted three articles and the Saskatchewan Environmental Society submitted one article for your Committee's reference. They outlined several topics including the economic benefits and efficiencies of demand side management, distributed renewable energy and 'green' infrastructure.

The Regina-Qu'Appelle Federal Green Party Association stated, "We believe that Saskatchewan citizens energy needs and our ecology economy needs can be best served by energy conservation, energy efficiency, renewable energies, small scale hydro, micro generation, cogeneration, combined cycle gas turbines and possible hydro imports from Manitoba" (CCA 149/26).

The representative organizations wrote to your Committee on two topics. Nuclear power was mentioned as a potential energy source in the North Saskatoon Business Association's submission, while Save Our Saskatchewan Crowns, a representative organization of concerned citizens, wrote to your Committee to offer their continued support of, "public ownership of large-scale electricity generating facilities as well as the power distribution system" (CCA 260/26).

Submissions received from industry supported four different kinds of energy generation. SHEC Energy Corporation is working on solar projects while Prairie Green Renewable Energy Inc. is working with several agencies to design Saskatchewan's first wood and agricultural waste pellet fuel plant. (CCA 205/26). A joint submission from Cameco and Areva and one from Bruce Power reiterated their support for nuclear energy development and the final submission was from Sherritt International Corporation encouraging the continued use of coal. All in all, each company supported their interested energy source.

Five communities wrote to your Committee. The R.M. of Hart Butte, the Town of Bengough, Town of Coronach and the Town of Willow Bunch, sent letters to your Committee encouraging the continued use of coal. The City of Saskatoon wrote and would like to increase cooperation with SaskPower on a variety of 'green' energy initiatives.

Finally, the Petroleum Technology Research Centre outlined its future research initiatives with hydrocarbons.

Written submissions can be found on the Committees website. www.legassembly.sk.ca/committees

RECOMMENDATIONS

The Standing Committee on Crowns and Central Agencies makes the following recommendations:

Infrastructure

Recommendation 1
Saskatchewan has current and future capital infrastructure needs due to aging facilities. Your Committee recommends that SaskPower and its partners must continue to invest in generation, transmission and distribution infrastructure to ensure that there is a consistent and reliable power supply now and into the future.

Cost

Recommendation 2
Your Committee recommends that SaskPower provide all customers in Saskatchewan with a consistent and reliable supply of power at the lowest possible cost.

Baseload Energy

Recommendation 3
Your Committee recommends that SaskPower continue to ensure that a consistent and reliable amount of baseload energy is made available to provide the province with its power needs now and into the future.

Recommendation 4
Your Committee recommends that there is a need to continue to evaluate carbon capture and sequestration options, while maintaining Saskatchewan's world-leading position in this technology.

Interties

Recommendation 5
Your Committee recommends that the Government of Saskatchewan should continue to work with neighbouring provinces and states to establish and strengthen interties and connections, similar to the recent agreement between Saskatchewan and Manitoba.

Recommendation 6
Your Committee recommends that the Government of Saskatchewan work in conjunction with the Federal Government to develop a national grid.

Demand Side Management, Conservation & Efficiency

Recommendation 7
SaskPower has indicated a potential savings of 100MW due to demand side management and conservation initiatives. Various presenters and experts have indicated this is a low target. Your Committee recommends that SaskPower increase their demand side management and conservation targets to align with other jurisdictions that have had documented successes with similar initiatives.

Recommendation 8
Your Committee recommends that SaskPower evaluate its net metering program and determine its potential for expansion.

Recommendation 9
Your Committee recommends that SaskPower examine net metering options for customers who have more than one meter on an account.

Recommendation 10
Your Committee recommends that SaskPower explore better avenues to promote the net metering program and the small power producers program.

Renewable Energy Sources

Recommendation 11
Your Committee recommends that SaskPower continue to add renewable energy sources to the generation mix. Adding these sources must be balanced with the risks associated with each.

Recommendation 12
Your Committee recognizes that SaskPower has done significant work studying wind options and recently announced two programs, The Green Options Plan and the Green Options Partners Program to add 200MW of wind power to the provincial grid. Your Committee recommends that additional wind capacity be continually evaluated.

Recommendation 13
Your Committee recommends that SaskPower pursue hydroelectric power, in particular run-of-the-river hydro projects and partnerships.

Recommendation 14
Your Committee recommends that SaskPower continue to monitor the affordability of solar power.

Recommendation 15
Your Committee recognizes that biomass projects are becoming an increasing possibility as a power source. Your Committee recommends SaskPower continue to monitor all biomass generation options.

Recommendation 16
Communities, individuals and industry have expressed interest in biomass. Your Committee recommends that SaskPower work with these various partners to evaluate potential biomass generation options.

Distributed Power

Recommendation 17
Your Committee recommends that SaskPower pursue possible cogeneration partnerships with communities and industry.

Saskatchewan Education Institutions

Recommendation 18

Your Committee recommends that the Government of Saskatchewan, in partnership with the University of Saskatchewan, University of Regina, Petroleum Technology Research Centre and The International Test Centre for CO_2 Capture and other potential partners continue to develop our own centre of excellence for the study of energy options. This would include the work that is being done on carbon capture and sequestration as well as all renewable energy sources, next generation advancements and smart grid technology.

First Nation and Métis Involvement

Recommendation 19

Your Committee recommends that the Government of Saskatchewan ensure First Nation and Métis peoples continue to be involved in evaluating and participating in future energy options.

Recommendation 20

Your Committee recommends that the Government of Saskatchewan complies with the Supreme Court of Canada rulings on the duty to consult and accommodate regarding First Nations and Métis peoples.

APPENDIX A – INVITED STAKEHOLDER LIST

Agrium
Archdiocese of Regina
Areva Resources Canada Inc.
Assembly of First Nations
Athabasca Basin -Transportation Planning Committee
BHP Billiton
Bruce Power
Cameco Corporation
Canada School of Energy and Environment
Canadian Centre for Policy Alternatives (CCPA)
Canadian Coalition for Nuclear Responsibility
Canadian Electricity Association
Canadian Energy Research Institute
Canadian Federation of Independent Businesses
Canadian Nuclear Safety Commission
Canadian Nuclear Society
Canadian Parks and Wilderness Society - Saskatchewan
Canadian Wind Energy Association
Cargill Ltd.
Centre for Studies in Agriculture, Law and the Environment
Coal Association of Canada
City of Estevan
City of Moose Jaw
City of Prince Albert
City of North Battleford
City of Regina
City of Saskatoon
City of Swift Current
City of Weyburn
City of Yorkton
Clean Green Saskatchewan
Communities of Tomorrow
Consumers' Cooperative Refinery
Cumulative Environmental Management Association
CUPE Saskatchewan
David Orchard Campaign for Canada
Denison Mines Corporation
Ducks Unlimited Canada
The David Suzuki Foundation
Enbridge Inc.
EnCana Corporation
Encanto Resource Development Inc
Energy Council of Canada
Environment Canada
Federation of Saskatchewan Indian Nations
First Nations University of Canada
Gabriel Dumont Institute
General Bio Energy
Golder Associates
Greater Saskatoon Chamber of Commerce
Green Communities Canada
Green Party of Saskatchewan
Greenpeace Canada
Husky Energy
Evraz Inc NA
Institute for Sustainable Energy, Environment and Economy
Intergovernmental Panel on Climate Change
International Atomic Energy Association
International Brotherhood of Electrical Workers
International Institute Sustainable Development
JNR Resources Inc
KAIROS: Canadian Ecumenical Justice Initiatives
Keewatin Career Development Corporation
Kitsaki Management Limited Partnership
Louis Dreyfus Highbridge Energy
Making the Links Radio
Manitoba Hydro
Mennonite Church of Saskatchewan
Métis Nation of Saskatchewan
Ministry of Environment - Climate Change Saskatchewan
Mosaic Potash
National Energy Board
National Farmers Union
Nature Saskatchewan
New North
North Saskatoon Business Association
Nuclear Energy Agency
NuCoal Energy Corporation
Office for Justice and Peace - Catholic Pastoral Centre
Office of Energy and Environment
Office of the Treaty Commissioner
One Sky: Canadian Institute of Sustainable Living
Partners FOR Saskatchewan River Basin
The Pembina Institute
Petroleum Technology Research Centre
Pollution Probe
Potash Corporation of Saskatchewan
Potash One
Prairie Adaptation Research Collaborative
Prairie BioGas
Prairie Policy Center
Progressive Conservative Party of Saskatchewan
Regina & District Chamber of Commerce
Regina Eco Living
Regional Center of Expertise -
Renewable Power- The Intelligent Choice (RPIC)
Richardson International
Rocky Mountain Institute

Saskatchewan Apprenticeship and Trade Certification Commission
Saskatchewan Association of Health Organizations (SAHO)
Saskatchewan Association of Regional Colleges
Saskatchewan Association of Rural Municipalities (SARM)
Saskatchewan School Boards Association
Saskatchewan Catholic School Boards Association
Saskatchewan Chamber of Commerce
Saskatchewan Construction Association
Saskatchewan Council for International Cooperation
Sask Eco Network
SaskEnergy
Saskatchewan Environment & Industry Managers Association
Saskatchewan Environmental Society
Saskatchewan Federation of Labour
Saskatchewan Indian Institute of Technologies
Saskatchewan Institute of Applied Sciences & Technology (SIAST Administrative Offices
Saskatchewan Medical Association
Saskatchewan Mining Association
Saskatchewan Organic Directorate
Saskatchewan Outfitters Association
Saskatchewan Potash Producers Association
SaskPower
Saskatchewan Research Council
Saskatchewan Trade and Export Partnership
Saskatchewan Trappers Association
Saskatchewan Union of Nurses
Saskatchewan Urban Municipalities Association (SUMA)
Saskatchewan Watershed Authority
Saskatchewan Wildlife Federation
Solar Energy Society of Canada Inc.
Suncor Energy Inc.
Sustainable Concepts Ltd
Titan Uranium Exploration
TransCanada
United Steelworkers
Yara Belle Plaine Inc.

APPENDIX B – LIST OF TABLED DOCUMENTS

Document Number	Description of Document
CCA 144/26	**Saskatchewan Power Corporation:** Powering a Sustainable Energy Future, dated October 6, 2009
CCA 145/26	**Saskatchewan Power Corporation:** Powering a Sustainable Energy Future PowerPoint presentation, dated October 6, 2009.
CCA 146/26	**SHEC Energy Corporation:** Submission for Inquiry on Saskatchewan's energy needs, dated September 29, 2009
CCA 147/26	**Elaine Hughes:** submission for Inquiry on Saskatchewan's energy needs, dated September 25, 2009
CCA 148/26	**Garrett Osborn:** Submission for Inquiry on Saskatchewan's energy needs "Semi-closed carbon cycle", dated October, 2009
CCA 149/26	**Regina-Qu'Appelle Federal Green Party Association**: Submission for Inquiry on Saskatchewan's energy needs, dated October 1, 2009
CCA 150/26	**Jacqueline Swiderski:** Submission for Inquiry on Saskatchewan's energy needs, dated October 1, 2009
CCA 151/26	**Marion E. Tolley:** Submission for Inquiry on Saskatchewan's energy needs, dated October 3, 2009
CCA 152/26	**NuCoal Energy Corp:** Submission for Inquiry on Saskatchewan's energy needs, dated October 7, 2009
CCA 153/26	**KAIROS Fort Qu'Appelle:** Submission for Inquiry on energy needs, "Too Earth-Shaking to be partisan" dated October 7, 2009
CCA 154/26	**Moose Jaw Chapter, Council of Canadian:** Submission for Inquiry on energy needs, dated October 7, 2009.
CCA 155/26	**Helix Geological Consulting:** Submission for Inquiry on energy needs, PowerPoint presentation, dated October 7, 2009.
CCA 156/26	**Helix Geological Consulting:** Response to questions raised during at the October 7, 2009 meeting of the committee re: cost per energy unit development cost for geothermal.
CCA 157/26	**Don Olson:** Submission for inquiry on Saskatchewan's energy needs, dated October 5, 2009.
CCA 158/26	**CCG Trade & Development Corporation:** Submission for Inquiry on Saskatchewan's energy needs – PowerPoint presentation "Biomass Power Generation", dated October 8, 2009.
CCA 159/26	**CCG Trade & Development Corporation:** Submission for Inquiry on Saskatchewan's energy needs – Table outlining renewable energy projects in Ontario, dated September 30, 2009.
CCA 160/26	**The Pembina Institute:** Submission for Inquiry on Saskatchewan's energy needs "Greening the Grid – Fact Sheet".
CCA 161/26	**The Pembina Institute:** Submission for Inquiry on Saskatchewan's energy needs – PowerPoint presentation, dated October 8, 2009.
CCA 162/26	**The Pembina Institute:** Submission for Inquiry on Saskatchewan's energy needs "Successful Strategies for Energy Efficiency", dated August 2006.
CCA 163/26	**Green Party of Saskatchewan:** Submission for Inquiry on Saskatchewan's energy needs "Unpacking the Question", dated October 8, 2009.
CCA 164/26	**Save Our Saskatchewan:** Submission for Inquiry on Saskatchewan's energy needs, dated October 9, 2009.

Document Number	Description of Document
CCA 165/26	**Renewable Power the Intelligent Choice:** Submission for Inquiry on Saskatchewan's energy needs, dated September 29, 2009.
CCA 166/26	**Council of Canadians, Prince Albert Chapter:** Submission for Inquiry on Saskatchewan's energy needs, dated October 9, 2009.
CCA 167/26	**Saskatchewan Environmental Society:** Submission for Inquiry on Saskatchewan's energy needs, "Addressing Saskatchewan's electricity needs in a sustainable manner".
CCA 168/26	**Low Energy Design Ltd.:** Submission for Inquiry on Saskatchewan's energy needs.
CCA 169/26	**Low Energy Design Ltd.:** Book titled *Six Degrees: Our Future on a Hotter Planet* by Mark Lynas.
CCA 170/26	**Canadian Wind Energy Association:** Submission for Inquiry on Saskatchewan's energy needs, dated October 13, 2009.
CCA 171/26	**Canadian Wind Energy Association:** Submission for Inquiry on Saskatchewan's energy needs, "WindVision 2025".
CCA 172/26	**Canadian Wind Energy Association:** Submission for Inquiry on Saskatchewan's energy needs, "WindVision 2025 – Backgrounders on Wind Energy".
CCA 173/26	**Atomic Energy of Canada Limited:** Submission for Inquiry on Saskatchewan's energy needs, dated October 14, 2009.
CCA 174/26	**Atomic Energy of Canada Limited:** Submission for Inquiry on Saskatchewan's energy needs, PowerPoint presentation "Nuclear Power in Saskatchewan", dated October 14, 2009.
CCA 175/26	**Cathy Holtslander:** Submission for Inquiry on Saskatchewan's energy needs, PowerPoint presentation "Saskatchewan's Energy Future", dated October 14, 2009.
CCA 176/26	**Clean Green Saskatchewan:** Submission for Inquiry on Saskatchewan's energy needs.
CCA 177/26	**Solar Outpost Inc.:** Submission for Inquiry on Saskatchewan's energy needs, "Benefits of distributed generation and small scale renewable energy applications in Saskatchewan", dated October 14, 2009.
CCA178/26	**Meadow Lake Tribal Council Development Inc.:** Submission for Inquiry on Saskatchewan's energy needs, dated October 15, 2009.
CCA 179/26	**Meadow Lake Tribal Council Development Inc.:** Submission for Inquiry on Saskatchewan's energy needs, PowerPoint presentation "Presentation to the Standing Committee on Crown and Central Agencies: Energy Options", dated October 15, 2009.
CCA 180/26	**Dave Elliott:** Submission for Inquiry on Saskatchewan's energy needs, dated October 15, 2009.
CCA 181/26	**Dave Elliott:** Submission for Inquiry on Saskatchewan's energy needs, "Design options for methane production from coal in the La Ronge region", dated April 8, 2005.
CCA 182/26	**Peter Ballantyne Cree Nation:** Submission for Inquiry on Saskatchewan's energy needs.
CCA 183/26	**Helix Geological Consultants Ltd:** Submission for Inquiry on Saskatchewan's energy needs, "Saskatchewan's deep geothermal energy potential".

Document Number	Description of Document
CCA 184/26	**Low Energy Design Ltd.:** Submission for Inquiry on Saskatchewan's energy needs, dated October 13, 2009.
CCA 185/26	**Dr. James V. Penna:** Submission for Inquiry on Saskatchewan's energy needs, dated October 9, 2009.
CCA 186/26	**Renewal Power the Intelligent Choice:** Submission for Inquiry on Saskatchewan's energy needs, "follow up".
CCA 187/26	**Joyce Neufeld:** Submission for Inquiry on Saskatchewan's energy needs, dated October 14, 2009.
CCA 188/26	**Saskatchewan Environmental Society:** Submission for Inquiry on Saskatchewan's energy needs, "Archer, Cristina L. And Jacobson, Mark Z., 2007: Supply Baseload Power and Reducing Transmission Requirements by Interconnecting Wind Farms *Journal of Applied Meteorology and Climatology*, November, 1701-1717", dated October 14, 2009.
CCA 189/26	**John Pedersen:** Submission for Inquiry on Saskatchewan's energy needs.
CCA 190/26	**Rural Municipality of Hart Butte No. 11:** Submission for Inquiry on Saskatchewan's energy needs, dated October 13, 2009.
CCA 191/26	**Town of Willow Bunch:** Submission for Inquiry on Saskatchewan's energy needs, dated October 15, 2009.
CCA 192/26	**Saskatchewan Mining Association:** Submission for Inquiry on Saskatchewan's energy needs, "Investing in baseload power infrastructure as a foundation for economic growth and prosperity", dated October 17, 2009.
CCA 193/26	**Wade Zawalski:** Submission for Inquiry on Saskatchewan's energy needs, Power Point presentation, "Utility Scale Solar Power for Saskatchewan", dated October 16, 2009.
CCA 194/26	**Dwayne Keir:** Submission for Inquiry on Saskatchewan's energy needs, dated October 6, 2009.
CCA 195/26	**Petroleum Technology Research Centre:** Submission for Inquiry on Saskatchewan's energy needs, "A PTRC Technology Roadmap for Saskatchewan 2008 to 2050", dated October 13, 2009
CCA 196/26	**Kathryn Scott:** Submission for Inquiry on Saskatchewan's energy needs.
CCA 197/26	**Sherry Buller:** Submission for Inquiry on Saskatchewan's energy needs, "What is Saskatchewan's Energy Goal?"
CCA 198/26	**Town of Bengough:** Submission for Inquiry on Saskatchewan's energy needs, dated October 16, 2009.
CCA 199/26	**Brett Dolter:** Submission for Inquiry on Saskatchewan's energy needs, dated October 15, 2009.
CCA 200/26	**Saskatchewan Association of Rural Municipalities:** Submission for Inquiry on Saskatchewan's energy needs, dated October 16, 2009.
CCA 201/26	**Kelln Solar:** Submission for Inquiry on Saskatchewan's energy needs, PowerPoint presentation "Sustainable Energy Supply Options".
CCA 202/26	**Pedersen Apiaries Ltd.:** Submission for Inquiry on Saskatchewan's energy needs, "A small Saskatchewan energy case study", dated October 16, 2009.
CCA 203/26	**North Saskatchewan River Environmental Society:** Submission for Inquiry on Saskatchewan's energy needs, "Submission on energy production and use", dated October 16, 2009.
CCA 204/26	**Don Gunderson:** Submission for Inquiry on Saskatchewan's energy needs, dated October 19, 2009.

Document Number	Description of Document
CCA 205/26	**Prairie Green Renewable Energy Inc.:** Submission for Inquiry on Saskatchewan's energy needs, dated October 15, 2009.
CCA 206/26	**Cameco & Areva:** Submission for Inquiry on Saskatchewan's energy needs, dated October 15, 2009.
CCA 207/26	**Phil Schaan-Dumont:** Submission for Inquiry on Saskatchewan's energy needs, dated October 7, 2009.
CCA 208/26	**North Saskatoon Business Association:** Submission for Inquiry on Saskatchewan's energy needs, dated October 16, 2009.
CCA 209/26	**Social Action Committee, Unitarian Congregation of Saskatoon:** Submission for Inquiry on Saskatchewan's energy needs, dated October 19, 2009.
CCA 210/26	**Gordon Michayluk:** Submission for Inquiry on Saskatchewan's energy needs, dated October 19, 2009.
CCA 211/26	**Malcolm Wilson:** Submission for Inquiry on Saskatchewan's energy needs, dated October 19, 2009.
CCA 212/26	**Malcolm Wilson:** Submission for Inquiry on Saskatchewan's energy needs 'Meeting future energy needs as a community benefit", dated October 19, 2009.
CCA 213/26	**Dr. Dan Beveridge:** Submission for Inquiry on Saskatchewan's energy needs, dated October 19, 2009.
CCA 214/26	**Atomic Energy of Canada Limited:** Submission for Inquiry on Saskatchewan's energy needs, "follow up", dated October 19, 2009.
CCA 215/26	**Saskatchewan Chamber of Commerce:** Submission for Inquiry on Saskatchewan's energy needs.
CCA 216/26	**Saskatchewan Chamber of Commerce:** Submission for Inquiry on Saskatchewan's energy needs, "Executive Summary: Lessons from the Spanish Renewable Bubble – Study about the effects on employment of public aid to renewable energy sources, Universidad Rey Juan Carlos, dated March 2009."
CCA 217/26	**Saskatchewan Power Corporation:** List of expertise that SaskPower has consulted in the development of supply options, dated October 19, 2009.
CCA 218/26	**Electrical Energy Options Review Panel:** Saskatchewan Electrical Energy Options position statement report, dated October 31, 1991.
CCA 219/26	**Jack Jensen:** Submission for Inquiry on Saskatchewan's energy needs, dated July 11, 2009.
CCA 220/26	**KAIROS Fort Qu'Appelle:** Submission for Inquiry on Saskatchewan's energy needs, "Demonstrating the Economic Benefits of Integrated, Green Infrastructure", dated March 2004.
CCA 221/26	**KAIROS Fort Qu'Appelle:** Submission for Inquiry on Saskatchewan's energy needs, "Options for State Funded Energy Efficiency Programs in the Forward Capacity Market", dated November 19, 2006.
CCA 222/26	**KAIROS Fort Qu'Appelle:** Submission for Inquiry on Saskatchewan's energy need, power point presentation "Economics of New Reactors and Alternatives", dated February 2009.
CCA 223/26	**City of Saskatoon:** Submission for Inquiry on Saskatchewan's energy needs, dated October 20, 2009.
CCA 224/26	**Town of Coronach:** Submission for Inquiry on Saskatchewan's energy needs, dated October 20, 2009.

Document Number	Description of Document
CCA 225/26	**Bruce Power:** Submission for Inquiry on Saskatchewan's energy needs, dated October 16, 2009.
CCA 226/26	**Prairie Green Renewable Energy:** Submission for Inquiry on Saskatchewan's energy needs, dated October 26, 2009.
CCA 227/26	**Saskatchewan Environmental Society:** Submission for Inquiry on Saskatchewan's energy needs, "Four Nuclear Myths: A Commentary on Stewart Brand's *Whole Earth Discipline* and on similar writings", dated October 13, 2009.
CCA 228/26	**Doug White:** Submission for Inquiry on Saskatchewan's energy needs, dated December 9, 2009.
CCA 229/26	**Noelle Finnerty:** Submission for Inquiry on Saskatchewan's energy needs, dated December 23, 2009.
CCA 230/26	**Bev Robertson:** Submission for Inquiry on Saskatchewan's energy needs, dated January 5, 2010.
CCA 231/26	**SHEC Energy Corporation:** Submission for Inquiry on Saskatchewan's energy needs, dated January 7, 2010.
CCA 232/26	**Saskatchewan Power Corporation:** SaskPower Responses January 2010.
CCA 233/26	**Government of Saskatchewan:** Government's strategic direction on uranium development, dated December 17, 2009.
CCA 234/26	**Christine Pike:** Submission for Inquiry on Saskatchewan's energy needs, dated January 18, 2010.
CCA 235/26	**Shirley Patmore**: Submission for Inquiry on Saskatchewan's energy needs, dated January 18, 2010."
CCA 236/26	**Shirley Patmore**: Submission for Inquiry on Saskatchewan's energy needs, "Six ways of providing base load power from wind", Canadian Renewable Energy Alliance Fact Sheet February 2009.
CCA 237/26	**Jack Jensen:** Submission for Inquiry on Saskatchewan's energy needs, "Alternative Energy Use in Government Facilities".
CCA 238/26	**Renewable Power, The Intelligent Choice:** Submission for Inquiry on Saskatchewan's energy needs, "
CCA 239/26	**Cameco Corporation and AREVA Resources Canada Inc.:** Submission for Inquiry on Saskatchewan's energy needs, dated January 20, 2010.
CCA 240/26	**Meadow Lake Tribal Council Resource Development Inc.:** Submission for Inquiry on Saskatchewan's energy needs, dated January 20, 2010.
CCA 241/26	**Saskatchewan Conference United Church of Canada:** Submission for Inquiry on Saskatchewan's energy needs, dated January 21, 2010.
CCA 242/26	**Canadian Nuclear Society, Saskatchewan Branch:** Submission for Inquiry on Saskatchewan's energy needs, dated January 21, 2010.
CCA 243/26	**Greater Saskatoon Chamber of Commerce:** Submission for Inquiry on Saskatchewan's energy needs, dated January 21, 2010.
CCA 244/26	**North East Enterprise Region:** Submission for Inquiry on Saskatchewan's energy needs, "Power Generation and North East Saskatchewan", dated January 22, 2010.
CCA 245/26	**Precision Rewind:** Submission for Inquiry on Saskatchewan's energy needs, dated January 22, 2010.
CCA 246/26	**City of Yorkton:** Submission for Inquiry on Saskatchewan's energy needs "Waste to Power", dated January 22, 2010.

Document Number	Description of Document
CCA 247/26	**City of Yorkton:** Submission for Inquiry on Saskatchewan's energy needs," Waste to Energy Conversion Technology Demonstration Project", dated September 1, 2009.
CCA 248/26	**Estevan and District Board of Tourism, Trade and Commerce, City of Estevan and RM of Estevan #5:** Submission for Inquiry on Saskatchewan's energy needs, dated January 25, 2010.
CCA 249/26	**William Gibbs:** Submission for Inquiry on Saskatchewan's energy needs, dated January 15, 2010.
CCA 250/26	**A. C. (Abbie) Roth:** Submission for Inquiry on Saskatchewan's energy needs, dated January 15, 2010.
CCA 251/26	**Allen Hewko:** Submission for Inquiry on Saskatchewan's energy needs, "Restoration of Oil and Gas well sites in Saskatchewan", dated January 21, 2010.
CCA 252/26	**Marilyn J. Brown:** Submission for Inquiry on Saskatchewan's energy needs, dated January 25, 2010.
CCA 253/26	**Sherritt International:** Submission for Inquiry on Saskatchewan's energy needs, "Coal – A Key part of Saskatchewan's Future Energy Requirements", dated January 25, 2010.
CCA 254/26	**Vision of Earth:** Submission for Inquiry on Saskatchewan's energy needs, dated January 27, 2010.
CCA 255/26	**CCG Trade and Development:** Submission for Inquiry on Saskatchewan's energy needs, dated January 22, 2010.
CCA 256/26	**George Gordon First Nation/ATCO Power:** Submission for Inquiry on Saskatchewan's energy needs "ATCO GeoWind Energy Development", dated January 27, 2010.
CCA 257/26	**HTC Purenergy:** Submission for Inquiry on Saskatchewan's energy needs "Energizing Saskatchewan", dated January 27, 2010.
CCA 258/26	**Council of Canadians, Regina Chapter:** Submission for Inquiry on Saskatchewan's energy needs, dated January 27, 2010.
CCA 259/26	**Regina Regional Opportunities Commission:** Submission for Inquiry on Saskatchewan's energy needs, dated January 27, 2010.
CCA 260/26	**Save our Saskatchewan Crowns:** Submission for Inquiry on Saskatchewan's energy needs, dated January 28, 2010.
CCA 261/26	**Communications, Energy and Paperworkers Union of Canada**: Submission for Inquiry on Saskatchewan's energy needs, dated January 28, 2010.
CCA 262/26	**EnCana:** Submission for Inquiry on Saskatchewan's energy needs "Natural Gas for a cleaner and prosperous Saskatchewan energy future", dated January 28, 2010.
CCA 263/26	**Clean Green Regina:** Submission for Inquiry on Saskatchewan's energy needs, dated January 28, 2010.
CCA 264/26	**Regional Centre of Expertise on Education for Sustainable Development:** Submission for Inquiry on Saskatchewan's energy needs, dated January 28, 2010.
CCA 265/26	**Al Taylor:** Submission for Inquiry on Saskatchewan's energy needs, dated January 28, 2010.

Document Number	Description of Document
CCA 266/26	**Alliance Pipeline:** Submission for Inquiry on Saskatchewan's energy needs, dated January 29, 2010.
CCA 267/26	**Lawson Environmental Services:** Submission for Inquiry on Saskatchewan's energy needs "Saskatchewan's Nuclear Future – Uncertainties, Opportunities and Viable Directions", dated January 29, 2010.
CCA 268/26	**Pieter Van Vliet:** Submission for Inquiry on Saskatchewan's energy needs "The Future of Uranium in Saskatchewan", dated November 8, 2009.
CCA 269/26	**Saskatchewan Power Corporation:** Submission for Inquiry on Saskatchewan's energy needs "Powering a sustainable energy future – the electricity and conservation strategy for meeting Saskatchewan's needs", dated January 29, 2010.
CCA 270/26	**Saskatchewan Power Corporation:** Responses to questions raised at the October 19, 2009 meeting of the committee, dated January 29, 2010.

TABLE 1 – WITNESSES BY CATEGORY

Individuals	Dave Elliot	
	Sandra Finley	
	Stefania Fortugno	
	Cathy Holtslander	
	Heidi Hougham	
	Jack Jensen	
	Dennis Lawson	
	Shirley Patmore	
	Dr. James Penna	
	Christine Pike	
	Daron Priest	
	Al Taylor	
	Dr. Malcolm Wilson	
	Wade Zawalski	
Social Justice & Environmental Groups	Clean Green Regina	Catherine Gibson Elaine Grass Sylvie Roy
	Clean Green Saskatchewan	David Geary
	Council of Canadians – Moose Jaw	Don Mitchell
	Council of Canadians – Prince Albert	Rick Sawa
	Council of Canadians – Regina	Jim Elliot
	KAIROS – Fort Qu'Appelle	Dr. Jim Harding
	KAIROS – Regina	Dr. Dan Beveridge
	North Saskatchewan River Environmental Society	Gil Pedersen
	Pembina Institute	Tim Weis
	Renewable Power: the Intelligent Choice	Steve Lawrence John Thornton
	Saskatchewan Conference United Church of Canada	Rev. Margaret McKechney
	Saskatchewan Environmental Society	Peter Prebble
	Save Our Saskatchewan	Aaron Hougham and Daron Priest
	Vision of Earth	Mark Cazakoff Ben Harack Kyle Laskowski

Industry	Alliance Pipeline	Tony Straquadine
	Atomic Energy of Canada Ltd.	Dr. Ron Oberth
	Cameco Corporation & Areva Resources Canada	Jim Corman Roman Strzeszewsk Dave Neuburger Ken Gullen
	CCG Trade & Development	Dave Kutcher
	EnCana	Eric Marsh Wayne Geis
	Helix Geological Consulting	Brian Brunskill
	HTC Pure Energy	Lionel Kambeitz
	Kelln Solar	Ken Kelln
	Low Energy Design Ltd.	Mark Bigland-Pritchard
	NuCoal Energy Corp.	Alan Cruikshank
	Pedersen Apiaries	Karen Pedersen
	Precision Rewind	Carey Fyke
	SaskPower	Pat Youzwa, Sandeep Kalra Doug Daverne Kevin Doherty Mike Marsh Judy May Garner Mitchell Mike Monea Shawn Silzer Gary Wilkinson,
	Solar Outpost	David Anderson
Representative Organizations	Canadian Nuclear Society, Saskatchewan Branch	Walter Keyes
	Canadian Wind Energy Association	David Huggill
	Communication, Energy and Paperworkers Union	Dan Bailey Wendy Sol
	Greater Saskatoon Chamber of Commerce	Jamie McIntyre Kent Smith Windsor
	International Brotherhood of Electrical Workers	Neil Collins
	North East Enterprise Region	Patrick Chopik Dave Ferguson
	Regina Regional Opportunities Commission	Clare Kirkland
	Saskatchewan Association of Rural Municipalities	David Marit
	Saskatchewan Chamber of Commerce	Steve McLellan
	Saskatchewan Mining Association	Pam Schwann and Steve Fortney

Political	Green Party of Saskatchewan	Larissa Shasko
First Nations	George Gordon First Nation and ATCO Power	Chief Ken Sinclair Trent Blind Paul Blaha
	Meadow Lake Tribal Council Resource Development Ltd.	Ben Voss
	Peter Ballantyne Cree Nation	Harvey Nataweyes, Stanley Merasty, Dale P. Reid
Communities	City of Estevan, RM of Estevan #5, Estevan and District Board of Tourism, Trade and Commerce, RM of Estevan #5	Rodney Beatty Michel Cyrenne Kelly Lafrentz Gary St. Onge
	City of Yorkton	Dave Putz
Research Organization	Regional Centre of Expertise on Education for Sustainable Development	Tanya Dahms

TABLE 2 – WRITTEN SUBMISSIONS BY CATEGORY

Individuals	Marilyn J. Brown
	Sherry Buller
	Brett Dolter
	Noelle Finnerty
	William Gibbs
	Don Gunderson
	Allen Hewko
	Elaine Hughes
	Jack Jensen
	Dwayne Keir
	Gordon Michayluk
	Joyce Neufeld
	Don Olson
	Garrett Osborn
	John Pedersen
	Bev Robertson
	A.C. (Abbie) Roth
	Phil Schaan-Dumont
	Kathryn Scott
	Jacqueline Swiderski
	Marion E. Tolley
	Pieter Van Vliet
	Doug White
Social Justice & Environmental Groups	Saskatchewan Environmental Society
	Social Action Committee of the Unitarian Congregation of Saskatoon
Industry	Bruce Power
	Cameco and Areva
	Prairie Green Renewable Energy Source Inc.
	SHEC Energy Corporation
	Sherritt International Corporation
Representative Organizations	North Saskatoon Business Association
	Save Our Saskatchewan Crowns
	KAIROS Fort Qu'Appelle – Jim Harding
Political	Regina Qu'Appelle Federal Green Party Association
Communities	City of Saskatoon
	R.M. of Hart Butte No. 11
	Town of Bengough
	Town of Coronach
	Willow Bunch
Research Organization	Petroleum Technology Research Centre

WORKS CITED

Government of Saskatchewan. 2009. SaskPower Leading the Way in Wind Generation. http://www.gov.sk.ca/news?newsId=c01931b6-9656-4e0d-a5bf-1994f343fecc (Accessed 16 Feb 10).

Intergovernmental Panel on Climate Change. 2005. *IPCC Special Report on Carbon Dioxide Capture and Storage.* New York: Cambridge University Press.

NRGreen. 2009. *General Waste Heat Fact Sheet.* *http://www.nrgreenpower.com/PDF_files/NRG-FS-General_937.pdf* (Accessed 28 Sept 09)

Saskatchewan. Legislative Assembly. 2009a. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 23, October 6, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2009b. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 24, October 7, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2009c. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 25, October 8, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2009d. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 26, October 9, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2009e. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 27, October 13, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2009f. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 28, October 14, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2009g. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 29, October 15, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2009h. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 30, October 16, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2009i. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 31, October 19, 2009) 26th Legislature, 2nd Session, 2009. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010j. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 37, January 18, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010k. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 38, January 19, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010l. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report* (Issue No. 39, January 20, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010m. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 40, January 21, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010n. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 41, January 22, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010o. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 42, January 25, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010p. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 43, January 27, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010q. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 44, January 28, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

___. Legislative Assembly. 2010r. Standing Committee on Crown and Central Agencies. *Hansard Verbatim Report.* (Issue No. 45, January 18, 2010) 26th Legislature, 3rd Session, 2010. Regina: Legislative Assembly Service.

SaskPower. 2010. *Help Shoulder the Weight.* Regina: SaskPower. http://www.saskpower.com/generationprocurement/baseload.shtml?carouselid=020810_1002_baseload_procurement_generation (Accessed 16 Feb 10).

___. 2010b. *Generate Your Own Power.* Regina: SaskPower http://www.saskpower.com/independent_power_producers/ (Accessed 24 Feb 10).

___. 2009a. *Powering Saskatchewan's Future.* Regina: SaskPower.

___. 2009b. Commercial Geothermal Rebate Program. http://www.saskpower.com/eneraction/programs_and_offers/for_my_business/geothermal_rebate_program/index.shtml (Accessed 23 Nov 09).

___.2003. Cory Cogeneration Facility: Highly Efficient Natural Gas-Fired Cogeneration Facility. http://www.gov.sk.ca/news-archive/2003/5/28-341-attachment.pdf (Accessed 24 Sept 09).

MINORITY OPINION

The NDP Official Opposition supports the basic tenets of this report – that Saskatchewan people be provided with electricity in a manner that is safe, reliable, environmentally sustainable, and affordable. We also express our sincere appreciation to all those who took the time to provide input to this process. The ideas and the passion of members of the public presenting before the committee were very much appreciated and are worthy of a much more meaningful and substantive discussion. For this and other reasons, we cannot endorse this report.

We reiterate our original position that the process that lead to the development of this report was flawed from the outset and as a result it is our contention that the Committee has failed to meet its Legislative mandate and more importantly, has failed to meet the expectations of the Saskatchewan public.

Originally the NDP Official Opposition proposed a comprehensive process that would have helped to identify substantially the future energy needs of the province, and would have provided for even more meaningful public participation .That proposed process involved three phases:

1) a full *needs assessment*
2) a *process of discovery* which would have seen expert witnesses review needs, benefits, and costs (financial and environmental), and
3) a presentation of *Directions* during which time public hearings would be held to review stages one and two.

This recommended process would have provided reasonable timelines for both expert witnesses and meaningful public consultation. It would also have resulted in significant recommendations on how to meet our future energy needs. As can be seen from the finished report, the recommendations call primarily for SaskPower to continue doing what it has been doing, and fails to provide significant direction to either the Crown Corporation or the Government of Saskatchewan which we maintain must play a significant role in supporting and encouraging alternative practices in producing power and getting it to the consumer.

The Report of the Committee does not constitute a visionary document that will engage the people of Saskatchewan and key stakeholders in a comprehensive discussion about Saskatchewan's future energy needs or the best ways to meet them. It fails to enable the public and key stakeholders to appreciate the challenges, opportunities and choices related to our future energy needs or our responses to national and international matters in front of us. It fails to provide any forum for the public to further engage in the debate. For these reasons we do not believe our work is finished.

Buckley Belanger, MLA

Trent Wotherspoon, MLA